STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

REPORT OF PROCEEDINGS ON THE PROPOSED RECLASSIFICATION OF CAPE FEAR RIVER SEGMENT IN BLADEN AND CUMBERLAND COUNTIES (CAPE FEAR RIVER BASIN) FROM C TO WS-IV CA AND WS-IV

PUBLIC HEARING
AUGUST 14, 2008
DUBLIN, NORTH CAROLINA

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SUMMARY AND RECOMMENDATION

SUMMARY

Background Classification Information

All surface waters in North Carolina are assigned a *primary* classification, which is based on their designated best uses, by the NC Division of Water Quality (DWQ) under the authority of the Environmental Management Commission. Numeric and narrative water quality standards are associated with each classification in order to protect its designated best uses. The most common and basic classification for all freshwaters is Class C. Other primary freshwater classifications provide additional levels of protection for uses consisting of drinking water supply (WS-I through WS-V) and primary recreation (B).

Supplemental classifications may be added to the primary classifications to provide additional protection to waters with special uses or values. Most of these supplemental classifications have been developed in order to promote special protection to sensitive or highly valued resource waters. The DWQ supplemental classifications are NSW (Nutrient Sensitive Waters), Tr (Trout Waters), HQW (High Quality Waters), ORW (Outstanding Resource Waters), UWL (Unique Wetlands), and Sw (Swamp Waters).

Classification Information Specific to Subject Waters

Current Classification (C)

The present classification of the Cape Fear River segment requested to be reclassified is Class C. Class C is a primary classification.

Class C water quality standards are the basic standards for water quality applicable to all fresh surface waters. Uses include aquatic life propagation and maintenance of biological diversity (including fishing and fish), wildlife, secondary recreation, agriculture and any other usages except for primary recreation or as a source of water supply for drinking, culinary, or food processing purposes. Secondary recreation includes wading, boating, and other uses involving human body contact with water where such activities take place in an infrequent, unorganized, or incidental manner. The standards for Class C waters are outlined in Rule 15A NCAC 2B .0211, Fresh Surface Water Quality Standards for Class C Waters.

Proposed Classification (WS-IV CA and WS-IV)

In 2006, Lower Cape Fear Water and Sewer Authority (LCFWASA) staff requested that a Cape Fear River segment (Bladen and Cumberland Counties) be reclassified from Class C to WS-IV CA and WS-IV (PA). The reason for the request is to allow a new intake structure to be placed in the river (request package attached as pages 1-6). Initially, the new intake will provide a potable water supply for the Smithfield Packing Company. In the future, the intake will provide a source of potable water for potentially several

southern coastal plain municipalities. In October 2004, the EMC, the Division of Water Resources (DWR), and the Lumber River Council of Governments (COG) entered into a cooperative agreement to assure that area groundwater resources are monitored and "a regional plan for long-range, sustainable water supply sources is developed" that would include Smithfield's participation and investigation of additional water sources, including surface water sources (agreement attached as page 7). A regional plan was developed, the LSFWASA was formed to include representation of several municipalities, and this proposed reclassification is an outgrowth of that plan.

Supplementing the request were written resolutions pertaining to the reclassification from Bladen County and Cumberland County, which are the local governments with jurisdiction in the area to be affected by the reclassification (resolutions attached as pages 8-12); Bladen County and Cumberland County support and do not object to the proposal, respectively. Furthermore, according to 2007 DWQ studies, the waters to be reclassified meet water supply water standards and criteria for the WS-IV designation (studies attached as pages A-1 through A-15 in Appendix). Finally, the DWR and Division of Environmental Health (DEH) Public Water Supply (PWS) Section do not object to the proposed reclassification.

Please note that DEH as well as DWQ have acknowledged the presence of a contaminant found in the subject waters and adjacent waters that may be an issue of concern; this contaminant is perfluorooctanoic acid, or more commonly known as C-8 or PFOA. DEH has stated that "PFOA should not prevent the reclassification of this stream" given recent sampling data, ongoing monitoring, and proposed standards for PFOA (DEH PWS Section letter attached as page A-16). DWQ is waiting for a guidance value for PFOA to be issued by a technical group, known as the Science Advisory Board (or SAB); once this value is established, DWQ may derive a water quality standard for PFOA.

The WS-IV primary classification is assigned to waters protected as water supplies that are located generally in moderately to highly developed watersheds. A Critical Area (CA) is the area adjacent to a water supply intake or reservoir where risk associated with pollution is greater than from the remaining portions of the watershed. A Protected Area (PA) means the area adjoining and upstream of the CA in a WS-IV water supply watershed in which protection measures are required. For a proposed riverine WS-IV intake, the area (land and waters) that is within 10 miles and draining to the intake is known as the PA, and the area (land and waters) within 0.5 mile and draining to the river intake is known as the CA. The criteria and standards that must be met before waters can be classified to WS-IV are outlined in Rule 15A NCAC 2B .0104, Considerations/ Assigning/Implementing Water Supply Classifications, and in Rule 15A NCAC 2B .0216, Fresh Surface Water Quality Standards for WS-IV Waters (rules attached as pages A-17 through A-25 in Appendix). These criteria include several water supply standards as well as the requirement that water supply waters must be used for drinking, culinary, or food processing purposes. All Class C uses are protected by the WS-IV classification.

The river segment requested for reclassification extends from the proposed intake to a point approximately 1 mile upstream of Grays Creek (map of area to be affected by

proposed reclassification on page S-4, and recommended amendment to the Cape Fear River Basin Schedule of Classifications, which lists the existing and recommended classifications of the waters proposed for reclassification, is on page S-5). The portion of the river proposed to be reclassified to WS-IV CA extends along the river from the proposed intake, which is to be placed approximately 2 miles upstream of County Road 1316, to a point approximately 0.5 miles upstream of the proposed intake. There are no named tributaries to the Cape Fear River in the proposed CA. The portion of the river proposed to be reclassified to WS-IV (PA) extends along the river from a point approximately 0.5 miles upstream of the proposed intake to a point approximately 1 mile upstream of Grays Creek. The proposed PA includes the entire length of several named tributaries, as well as the lower portions of many named tributaries, to the Cape Fear River; most of these waters are presently classified C and would be reclassified to WS-IV (PA), and the remaining waters, which carry the B classification, would be reclassified to WS-IV (PA) & B.

The proposed area is rural in character, with primarily forested lands, row crops, and residences. Approximately 160 acres of land will become CA, and nearly 30,628 acres of land will become PA.

In summary, the waters proposed for reclassification are as follows:

- the above-mentioned Cape Fear River segment in Bladen and Cumberland Counties, which is currently classified as Class C, is proposed to be reclassified as WS-IV CA and WS-IV

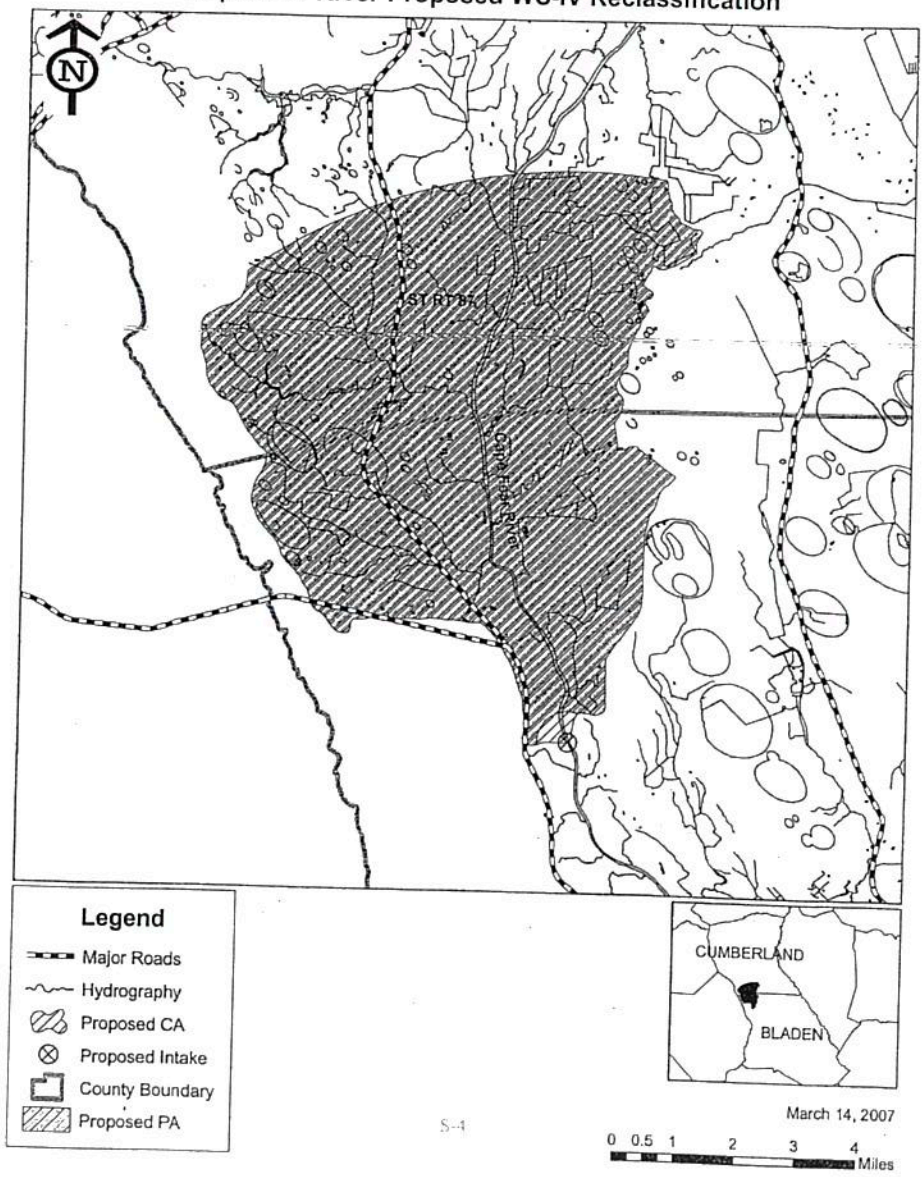
Implications of the Proposed Reclassification

WS-IV protective management strategies are outlined in the following rules:
- 15A NCAC 2B .0104 Considerations/Assigning/Implementing Water Supply Classifications
- 15A NCAC 2B .0216 Fresh Surface Water Quality Standards for WS-IV Waters

(Rules attached as pages A-17 through A-25 in Appendix)

Rule 15A NCAC 2B .0104, Considerations/Assigning/Implementing Water Supply Classifications, describes regulations mainly pertaining to the responsibilities of local governments with jurisdiction in water supply watersheds, and these responsibilities involve actions concerning ordinances, engineered stormwater controls, normal pool elevation, Agricultural Cost Share Program, etc. (rule attached as pages A-17 through A-21 in Appendix). This regulation also addresses new, low density, high density, expanding, existing, and cluster development, redevelopment and variances pertaining to development in water supply watersheds. Further topics include, but are not limited to, suitability of waters for water supply classifications, critical water supply watersheds, and future water supply use, as well as groundwater remediation projects, joint water quality monitoring and information sharing programs, roads, bridges, and silviculture activities in water supply watersheds.

Cape Fear River Proposed WS-IV Reclassification



PROPOSED AMENDMENT TO THE CAPE FEAR RIVER BASIN SCHEDULE OF CLASSIFICATIONS AS REFERENCED IN TITLE 15A NORTH CAROLINA ADMINISTRATIVE CODE 2B .0311

Name of Stream	Description	Existing Class	Description of Proposed Segment	Proposed Class
Cape Fear River	From City of Fayetteville water supply intake to mouth of Hammond Creek	C	From a point approximately 0.5 mile upstream of Smithfield Packing Company's intake to Smithfield Packing Company's intake (approximately 2 miles upstream of County Road 1316).	WS-IV; CA
Cape Fear River	From City of Fayetteville water supply intake to mouth of Hammond Creek	C	From a point approximately 1 mile upstream of Grays Creek to a point approximately 0.5 mile upstream of Smithfield Packing Company's intake	WS-IV
Georgia Branch (Prospect Hall Creek)	From source to Cape Fear River	C	same	WS-IV
Mines Creek	From dam at Pages Lake to Georgia Branch	C	same	WS-IV
Mines Creek (Pages Lake)	From source to dam at Pages Lake	B	same	WS-IV, B
Willis Creek	From source to Cape Fear River	C	same	WS-IV
Unnamed Tributary at Willis Creek Church	From dam at McGaugans Lake to Willis Creek	C	same	WS-IV
Unnamed Tributary at Willis Creek Church (McGaugans Lake)	From source to dam at McGougans Lake	B	same	WS-IV, B
Kirks Mill Creek	From source to Willis Creek	C	same	WS-IV
Swans Creek	From source to Willis Creek	C	From a point approximately 0.2 mile downstream of County Road 2233 to Willis Creek.	WS-IV
Longs Branch (McNeill Pond)	From source to Swans Creek	C	From a point approximately 0.04 mile downstream of County Road 2261 to Swans Creek.	WS-IV
Hairs Mill Creek	From source to Cape Fear River	C	same	WS-IV
Grays Creek	From N. C. Hwy. 87 to Cape Fear River	C	From a point approximately 0.04 mile downstream of County Road 2233 to Cape Fear River.	WS-IV

One of the most important aspects of the rule is that local government/s that have land use jurisdiction within a water supply watershed are responsible for developing and implementing water supply watershed ordinance/s. Designated local government/s have 270 days after the effective date of the proposed rule to develop or modify watershed protection land use ordinance/s to at least meet the state's minimum requirements (15A NCAC 2B .0100 and .0200). The result of this proposed reclassification will be that Bladen County and Cumberland County would be required to modify their water supply watershed protection ordinances within 270 days following the effective date of the proposed rule. However, please note that when a reclassification is anticipated to not become effective before waters are to be used as a potable water supply source, DWQ staff recommends that local governments create or modify water supply watershed protection ordinances before these waters are utilized as a potable water supply source.

Rule 15A NCAC 2B .0216, Fresh Surface Water Quality Standards for WS-IV Waters, features regulations regarding the best usage of these waters, conditions related to best usage, and quality standards applicable to Class WS-IV waters (for sewage, industrial waste, non-process industrial wastes, or other wastes, as well as nonpoint source and stormwater pollution for the CA and PA) (rule attached as pages A-22 through A-25 in Appendix). The main features of the quality standards portion of this rule are described in the following paragraphs and table.

If reclassified, additional regulations associated with stormwater control for development activities will be required in the proposed water supply watershed. Projects that require a state Sedimentation and Erosion Control Plan and are located within the proposed water supply watershed will be required to comply with development density and setback requirements. More specifically, where land disturbing activities in WS-IV watersheds require a Sedimentation and Erosion Control Plan, development is limited to two dwelling units (du) per acre or 24% built upon area (low density option) in the CA and PA. For those developments without curb and gutter street systems, development may take place at up to three du/acre or 36% built upon area in the PA. A high density option, which requires control of runoff of the first inch of rainfall though the use of engineered stormwater controls, permits development at up to 50% built upon area in the CA and 70% built upon area in the PA. Within these options there is considerable flexibility for local governments such as averaging development density. Thirty foot stream setbacks are required with the high density option. State Department of Transportation (DOT) regulations for WS-IV watersheds require use of Best Management Practices (BMPs) associated with meeting the above-mentioned requirements, and no new permitted landfills will be allowed in the CA. Finally, forestry and farming practices as well as dam and water resource projects will not be affected.

In WS-IV water supply watersheds, water supply standards must be met by domestic and industrial permitted NPDES wastewater dischargers. In addition, new industrial process wastewater discharges will have additional wastewater treatment requirements in the WS-IV CA.

There are several animal operations and one NPDES wastewater discharger, Dupont Fayetteville Works, in the proposed water supply watershed; the above-mentioned animal operations and discharger most likely will not be impacted by current regulations associated with this reclassification. There are not any known planned dischargers and developments in the proposed area that would be impacted by the proposal according to DWQ staff in the Fayetteville Regional Office and staff with local governments with jurisdiction in the proposed reclassification area.

The table below summarizes and compares the requirements of the existing and proposed classifications.

Table 1. Summary and Comparison of Existing and Proposed Classifications' Requirements

Classification	Area Affected	Low Density Development Option	High Density Development Option*	Allowable Wastewater Discharges	Landfills Allowed	DOT BMPs
Class C (Existing)	Receiving Stream	No Restrictions		Domestic and Industrial	No Specific Restrictions	No Specific BMPS Required
WS-IV Critical Area (Proposed)	½ Mile and Draining to Intake	1 DU / 0.5 acre or 24% BUA and 30' Setbacks**	24-50% BUA and 100' Setbacks**	Domestic and Industrial (New Industrial Process Discharges Will Require Additional Treatment Requirements)	No New Landfills	Required
WS-IV Protected Area (Proposed)	10 miles Run-of-River Upstream and Draining to Intake	1 DU / 0.5 acre or 24% BUA and 30' Setbacks** Optional: 3 DU / 1.0 acre or 36% BUA w/o curb and gutter street system	24-70% BUA and 100' Setbacks** Optional: 3 DU / 1.0 acre or 36% BUA w/o curb and gutter street system	Domestic and Industrial	No Specific Restrictions	Required

DU = Dwelling Unit; BUA = Built Upon Area
*High Density Option requires control of runoff from first 1" of rainfall by engineered stormwater controls. Local governments must assume ultimate responsibility for operation/maintenance of these in a WS-IV.
** These rules apply only to projects requiring a Sedimentation and Erosion Control Plan.

Public Hearing Process and Comments Received

In accordance with North Carolina General Statutes, a public hearing was held on August 14, 2008, in Dublin, North Carolina (Bladen County). Notice of the proposal, as reflected in the proposed amendment to 15A NCAC 02B .0311 (Cape Fear River Basin), and hearing was published in the July 15, 2008, *North Carolina Register* (Volume 23, Issue 2) (proposed rule amendment attached as pages A-26 through A-31). Announcements of the public hearing (announcement attached as pages 13-14) were sent to those people who have requested to be placed on the Water Quality Rule-Making Announcements mailing list and Division of Water Quality Rules e-mail list, to staff of local governments with jurisdiction over land adjacent to the waters proposed to be reclassified, and to other persons who may have wished to learn more about the proposed reclassification, including staff of local interest groups, industries, environmental organizations, companies, and state agencies. The public announcement was submitted on July 18, 2008 to two local newspapers, which are the *Bladen Journal* and *The Fayetteville Observer*, and requested

to be published (cover letter to newspapers attached as page A-32 in Appendix). Ed Beck, Surface Water Protection Supervisor in the Wilmington Regional Office, served as hearing officer (hearing officer designation letter attached as page 15).

27 people registered at the public hearing, albeit at least 28 people attended the hearing (list of attendees attached as page 16). Of those 28 people, 26 provided the organization they were representing: several municipalities (Bladen County, Columbus County, Cumberland County, City of Fayetteville, Town of Chadbourn, and Town of Elizabethtown), the Lumber River COG, NC House of Representatives, NC Department of Agriculture, self, two consulting firms, an environmental organization, landowner, the LCFWASA, and Smithfield. Opening comments and slides were presented by DWQ staff to provide a brief overview of the DWQ classification program and detailed information about the proposed reclassification. Then a session in which the public was given the opportunity to provide comments regarding the proposed reclassification was held.

11 individuals registered to make comments at the hearing about the proposed reclassification, albeit only nine chose to speak. After the nine individuals spoke, one person who did not register decided to speak. All 10 speakers provided their affiliations consisting of Bladen County, Cumberland County, City of Fayetteville, Lumber River COG, NC House of Representatives, self, LCFWASA, Smithfield, and Cape Fear Riverkeeper and River Watch. Seven of the speakers clearly stated they supported the reclassification and represented LCRWASA, Lumber River COG, Smithfield, Bladen County, Cumberland County, NC House of Representatives, and self. The remaining speakers did not state that they were for or against the reclassification, and one of these speakers, who represented Cape Fear Riverkeeper and River Watch, did have several concerns (see paragraph below describing concerns).

Three of the speakers felt further public education about the reclassification was needed. DWQ staff stated before and after the verbal public comment session that people with questions could contact DWQ staff after the hearing. In addition, DWQ staff deemed that sufficient public notice for the reclassification was provided, and that adequate newspaper coverage of the reclassification was made available based on the local newspapers that received the public announcement and were requested to publish it.

Written comments were accepted from July 15, 2008 through September 15, 2008. Two letters in support of the reclassification and one letter that did not state a stance on the reclassification were received at the hearing from three of the speakers. After the hearing, one letter in support of the reclassification was received from the Municipal and County Association of Bladen, and two letters with concerns but not a stance on the reclassification were received; one of the two later letters was signed by two Citizens for Clean Industry representatives, and the other letter was signed by three landowners (letters supporting proposed reclassification attached as pages 17-21, and letters providing no stance on the reclassification attached as pages 22-26).

Concerns expressed during the comment period (in **bold**) and DWQ responses follow:

- **not wanting tighter restrictions on land use**

Support - 2 in State
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- Please refer to the parts of the section above entitled "Implications of the Proposed Reclassification" that describe the proposed reclassification's restrictions associated with development. In a nutshell, the proposal would require additional treatment of stormwater only for projects that require a state Sedimentation and Erosion Control Plan, which is generally only applicable when one or more acres of land is to be disturbed. In addition, please note that development density restrictions within local ordinances generally only allow the low density options associated with this proposal, which means that only a 30' setback would be required for stormwater control in the proposed water supply watershed.

- **wanting an EIS conducted, and more study done on the proposed withdrawal**
  - Information regarding the proposed withdrawal has been reviewed by staff of multiple government entities who reviewed the EA for the proposed withdrawal project, and that information is presumed sufficient, given that the EA received a Finding of No Significant Impact (FONSI.)
- **wanting the proposal's impact on landowners and input from them to be more fully addressed**
  - The impact of the proposed reclassification on landowners and their input has been more fully addressed in this document, and will be reviewed by the EMC before it makes a decision on this proposal.
- **wanting the state to look at the immediate impact of the proposed reclassification on the river segment, and to view it more widely and globally**
  - The proposal is designed to afford further protection to the subject watershed, and thus, indirectly will also afford further protection to the watershed of the river downstream of the intake and local groundwater resources.
- **having Smithfield involved in this proposal, given that it has caused water quality problems, and wanting the state to greatly regulate this proposal (and Smithfield) so as not to allow Smithfield to expand, to keep pressure on Smithfield to keep conserving water, and to perhaps include more mitigation for what has occurred to groundwater**
  - This project would allow Smithfield to get water needed for their operations from the river and to reduce use of water from wells, and thus, help alleviate current local groundwater quantity and quality concerns. The regulations associated with the proposal do not address water conservation, expansion of Smithfield, or mitigation, and requirements for those activities are outlined in other local, state, and federal regulations.

RECOMMENDATION

It is the recommendation of the Hearing Officer that the reclassification of the segment of the Cape Fear River, as proposed herein, be approved by the Environmental Management Commission. In making this recommendation, the Hearing Officer has considered the requirements of General Statutes 150B-21.2, 143-214.1, 143-215, and 143-215.3(a)(1), and Rules 15A NCAC 2B .0100 [Procedures for Assignment of Water Quality Standards,

especially 15A NCAC 2B .0104 (Considerations/Assigning/Implementing Water Supply Classifications)] and 15A NCAC 2B .0216 (Fresh Surface Water Quality Standards for WS-IV Waters). In addition, the need for a long-range, sustainable water supply source given current local groundwater issues; the need for a new permanent intake structure to be placed in the Cape Fear River for use by Smithfield Packing Company, and in the future, potentially several southern coastal plain municipalities; and the opinion of NCDEH PWS Section staff that the subject waters can be used as drinking water supply once treated have been considered.

In taking this action, Rule 15A NCAC 2B .0311, which references the Schedule of Classifications for the Cape Fear River Basin, will show that the Environmental Management Commission has revised the schedule for:

- a portion of Cape Fear River [Index No. 18-(26)] (including tributaries) from Smithfield Packing Company's intake, located approximately 2 miles upstream of County Road 1316, to a point approximately 0.5 miles upstream of Smithfield Packing Company's intake from Class C to Class WS-IV CA.

- a portion of Cape Fear River [Index No. 18-(26)] (including tributaries) from a point approximately 0.5 miles upstream of Smithfield Packing Company's intake to a point approximately 1 mile upstream of Grays Creek from Class C to Class WS-IV.

The proposed effective date of this reclassification is January 1, 2009.

Hobbs, Upchurch & Associates, P.A.
Consulting Engineers
14878 US Hwy 17 • P.O. Box 1400 • Hampstead, NC 28443

November 29, 2006

Elizabeth Kountis
Classification and Standards Unit
North Carolina Department of Environment and Natural Resources
Division of Water Quality- Planning Section
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

RE: Application to Request Reclassification of a Portion of the Cape Fear River

Dear Ms. Kountis:

On behalf of our client, The Lower Cape Fear Water and Sewer Authority (the Authority), we are submitting the enclosed Application to Request Reclassification of a Portion of the Cape Fear River. The Authority proposes to construct and operate The Bladen Bluffs Regional Surface Water System (the System). The System will involve the construction of a raw water intake with a capacity of up to 30 million gallons per day (MGD), a Surface Water Treatment Plant (SWTP) with a capacity of up to 4 MGD, and a 20-MG storage reservoir on land that is currently owned by Smithfield Packing Company in Tar Heel, North Carolina (Bladen County). The Authority will offer water services to local governments and industrial users in the counties of Bladen, Columbus, Robeson and Sampson. Based on the location of the raw water intake, the Authority requests that a portion of the Cape Fear River and certain tributaries be reclassified from Class "C' to "WS-IV". The affected watershed area stretches from the location of the intake in Tar Heel (Bladen County) to 10 miles upstream in Cumberland County.

The enclosed application package contains:

(1) Application Form 09-04;

(2) A USGS 7.5 minute topographic map outlining the subject waters/land area;

(3) Signed resolution of support from Bladen County and draft resolution from Cumberland County; and

(4) The report entitled: "Justification for a 30-MGD Water Intake in the Cape Fear River at Tar Heel, Bladen County, NC" that substantiates the need for the proposed intake.

Hampstead, NC • Telephone 910 270 5520 • Fax 910 270 5548 • email: msanchezk@hobbsupchurch.com
Southern Pines Myrtle Beach Nags Head Charlotte Beaufort

It is our understanding that the Cumberland County Board of Commissioners intends to consider the enclosed resolution at its upcoming meeting on December 4, 2006. We will forward a signed copy of the resolution to you immediately after its approval.

Thank you for your attention to this important matter. We look forward to working with you towards the approval of the enclosed reclassification request. If you have any questions regarding this project, please call me at (910) 270-5520.

Sincerely,

Morella Sánchez-King, Ph.D., P.E.
Division Manager

Enclosures.

cc. Hannah Stallings, DWQ - Planning Branch (w/o enclosures)
Don Betz, Lower Cape Fear Water and Sewer Authority

APPLICATION TO REQUEST RECLASSIFICATION OF NC SURFACE WATER

1. Date of Request: November 29, 2006

2. Requested by: Lower Cape Fear Water and Sewer Authority
1107 New Pointe Blvd, Suite 17
Leland, North Carolina, 28451
phone: 910.383.1919
fax: 910.383.1949

3. River Basin: Cape Fear Counties: Bladen, Cumberland

4. List Waterbody requested for reclassification:

Waterbody Name	Waterbody Index	Current Class	Request Class
CAPE FEAR	NC18-(26)	"C"	"WS-IV"

5. Attachments:
Is a USGS 7.5 minute topographic map outlining the subject waters/land area attached?___YES__
Is this a request for a more protective water supply reclassification?_YES_
If so, is a resolution from all local governments with land use jurisdiction within the boundaries of a proposed water supply watershed attached? YES

Resolution from the following entities are attached:
- Bladen County
- Cumberland County

6. Reason for request. (see enclosed report: Justification of a 30-MGD Water Intake in the Cape Fear River at Tar Heel, Bladen County, NC)
It is the intention of the Lower Cape Fear Water and Sewer Authority (LCFWASA) of Leland, NC to initiate the construction of the Bladen Bluffs Water System (BBWS). As a prerequisite to formal design, LCFWASA is applying for the reclassification of 10 river miles of the Cape Fear river from Class code C to Class code WS-IV along that length of river starting at the coordinates 34°46'17 N by 78°47'52 W at Tar Heel upstream to the mouth of an unnamed creek at the coordinates 34°54'22 N by 78°48'55W.

LCFWASA intends to install a raw water intake in the river designed for a capacity of 30 MGD. The water intake is approximately 2.6 miles North of the town of Tar Heel.

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In addition to the intake structure in the river, a 20 million gallon holding pond and a 4 MGD treatment facility are to be constructed on the Smithfield Packing property at the bluffs above the river.

BBWS is intended to serve the entire region through supplying raw water to Bladen, Columbus, Pender, Robeson, and Sampson counties that currently draw water from receding aquifers or aquifers that are in danger of chloride intrusion. With the conversion from groundwater sources to surface sources by municipalities and industries the stressed aquifers may recharge to original levels and quality, however groundwater will continue to be a source for small consumers in locations where surface regional water is not feasible to distribute.

The initial flow to be withdrawn from the river is 4 MGD to Smithfield Packing, used for all requirements of pork processing from cleaning of carcasses through finished product and employee consumption. However the installed intake structure, pumps, and piping will be designed and built for the 30 MGD flow that will become available through later appropriate permitting processes as the necessary infrastructure for distribution becomes available. From a watershed perspective, the current proposed consumers as well as future users would return their treated water back to the Cape Fear.

The ultimate goal of the project is multifaceted but two primary goals are most obvious and crucial:

1) Consumers of water in this region of the state cannot withdrawal any more groundwater than they are at this moment. Historical levels in test wells show localized cones of depression in the main pumping centers (i.e. Smithfield Packing site, Elizabethtown) indicating that movement of water underground will be flowing in from all directions with the possibility of salt water intrusion, unless the current pumping levels cease. Once withdrawal from the aquifer slows or stops, groundwater levels very likely will rebound over time and become a reliable source for small consumers in remote areas. To illustrate, provided that that groundwater levels remain stable and no additional pumping centers are activated, the static level of the Upper Cape Fear Aquifer would rebound at a rate of 0.10 inches/year. If, however, pumping were to cease entirely, the static level would rise much faster.
2) The availability of a reliable and cost-effective source of water will enhance economic development in southeastern North Carolina.

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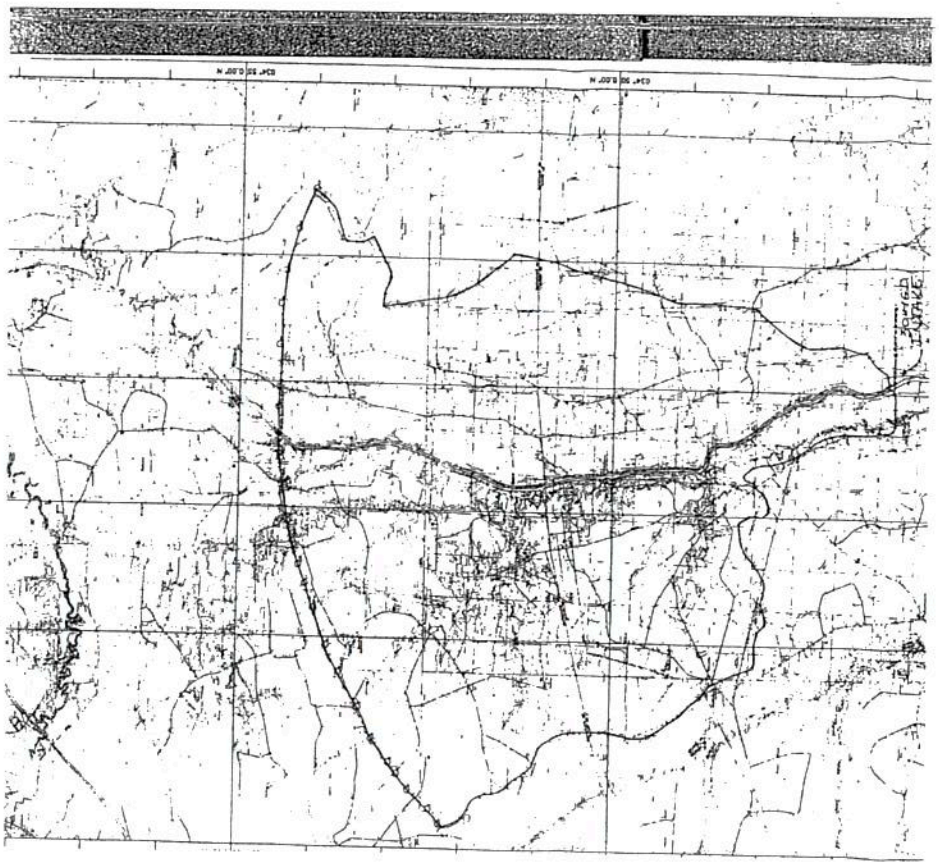
Bladen Bluffs Regional Surface Water System
Cape Fear River Reclassification
Waterbodies to be Reclassified

WaterBody	Stream Index #	Current Class	Request Class	County	Description
Cape Fear River	18-(26)	C	WS-IV	Bladen/ Cumberland	From: 34° 54' 27" N; 78 48' 47" W To: 34° 46' 17" N; 78 47' 52" W on the main stem of the Cape Fear River
Gray's Creek	18-35-(2)	C	WS-IV	Cumberland	Segment from Lacy Blossom road to the Cape Fear River
Hair's Mill Creek	18-36	C	WS-IV	Cumberland	From Source to the Cape Fear River
Willis Creek	18-37	C	WS-IV	Cumberland	From Source to the Cape Fear River
Swans Creeks	18-37-1	C	WS-IV	Cumberland	From Source to Willis Creek
Long's Branch	18-37-1-1	C	WS-IV	Cumberland	From Source to Swan's Creek
Kirk's Mill Creek	18-37-2	C	WS-IV	Cumberland	From Source to Willis Creek
Unnamed Tributary	18-37-3-(1)	B	WS-IV	Cumberland	From Source to dam at McGougans Lake
Unnamed Tributary	18-37-3-(2)	B	WS-IV	Cumberland	From Dam at McGougans Lake to Willis Creek
Georgia Branch	18-38	C	WS-IV	Bladen	From Source to Cape Fear River
Mine's Creek	18-38-1-(1)	B	WS-IV	Bladen	From Source to dam at Pages Lake
Mine's Creek	18-38-1-(2)	C	WS-IV	Bladen	From dam at Pages Lake to Georgia Branch



Cooperative Agreement between the Environmental Management Commission, the Division of Water Resources, and the Lumber River Council of Governments

October 14, 2004

This cooperative agreement between the Environmental Management Commission, the Division of Water Resources, and the Lumber River Council of Governments (which represents local governments and stakeholders in Bladen, Columbus, Hoke, Robeson, Sampson and Scotland Counties) will assure that ground water levels and withdrawals are monitored and recorded, that a regional plan for long-range, sustainable water supply sources is developed, and that ground water level declines are managed to avoid damage to the aquifers. The EMC will review progress at least annually to assure that the specific milestones are met. The agreement allows local water users the opportunity to take responsibility for planning and managing water resources on a long range, sustainable basis. The EMC retains the authority to begin the development of capacity use area rules at any time if it determines that progress under this agreement to resolve water management problems is not satisfactory.

The region's water users and the LRCOG will undertake the following strategies and objectives:

- improve the regional monitoring well network with a goal of investing $150,000 per year over five years
- By February 2006, Smithfield Foods, Inc. is expected to develop a plan for sustainable water sources either acting alone or in partnership with Bladen County and possibly with other users. The plan must be satisfactory to the Division of Water Resources. Smithfield Foods or a partnership of water users, if such a partnership is formed, will make quarterly progress reports to the Division starting in January 2005.
- alternative water sources planning assistance by LRCOG to regional water users, including: shifting users to surface water sources, using reclaimed water, reducing waste of water and improving water use efficiency, developing shallower aquifers, and adding interconnections among water systems
- arrange a 2005 agricultural water use survey by the Department of Agriculture and Consumer Services with periodic updates
- develop conservation and reuse strategies for each sector of water supply, including assistance from the Division of Pollution Prevention and Environmental Assistance with industrial users; efforts by the North Carolina Cooperative Extension with irrigators, agri-business and intensive livestock users; and efforts by LRCOG to promote water efficiency rate structures and public water system transmission line integrity
- develop regional water supply plans for 2030 that encompass additional water sources, environmental protection, inter-system cooperation, and regional water resource management

Dr. David H. Moreau, Chairman
Environmental Management Commission

John N. Morris, Director
Division of Water Resources

James B. Perry, Executive Director
Lumber River Council of Governments

County of Bladen

Board of Commissioners

Resolution

Resolution of the Board of Commissioners of Bladen County in Support of the Bladen Bluffs Regional Surface Water System

Whereas, the Board of Commissioners of Bladen County (the Board) finds that the availability of water suitable for industrial use, irrigation, and human consumption is instrumental to the economic well-being of Bladen County, particularly as it relates to the growth of industry and agriculture, and the development of commercial and residential properties; and

Whereas, the Board finds that the continued availability of such water requires management of long-range sustainable water supply sources; and

Whereas, the Board finds that the preservation of regional groundwater resources in Bladen County and surrounding areas necessitates the evaluation of alternative water sources, including surface water; and

Whereas, the Lower Cape Fear Water & Sewer Authority (the Authority) is a non-profit public agency organized under the provisions of the North Carolina Water and Sewer Authorities Act; and

Whereas, the Authority is authorized to construct and operate water and sewer systems located within its service area consisting of Bladen, Brunswick, Columbus, New Hanover, and Pender Counties, and the City of Wilmington; and

Whereas, Bladen County is a member of the Authority; and

Whereas, the Authority and Smithfield Packing Company, Inc. (SPC) signed a Memorandum of Understanding dated January 9, 2006 regarding the development, construction and operation of a raw water intake behind Lock and Dam Number 2 on the Cape Fear River and a raw water storage reservoir and a water treatment plant in Tar Heel, North Carolina and with the possibility of additional capacity to serve the needs of regional, local government and other industrial users (the Project); and

Whereas, the name of the Project shall be the Bladen Bluffs Regional Surface Water System; and

Whereas, the Authority and SPC have negotiated and executed a Project Development Agreement (the PDA) that specifies the rights and responsibilities of both parties with respect to the Project; and

Whereas, pursuant to the PDA, the Authority is responsible for obtaining all approvals relating to the construction and financing of the Project, including obtaining all required local, State and Federal, land-use, environmental and other regulatory approvals and water rights; and

Whereas, the preparation of an Environmental Assessment by the Authority and the issuance of a Finding of No Significant Impact (FONSI) by the North Carolina Department of Environment and Natural Resources is a prerequisite to the issuance of several required permits for the Project; and

Whereas, the construction of the Project and use of surface water for water supply purposes will require a reclassification (the Reclassification) of a portion of the Cape Fear River from a Class "C" surface water to a "WS-IV" water supply classification; and

Whereas, the Reclassification must be approved through rulemaking by the North Carolina Environmental Management Commission; and

Whereas, the Authority has initiated work on the Project by awarding contracts for the preparation of the Environmental Assessment and the Request for Reclassification; and

Whereas, the Authority intends to submit the Environmental Assessment and the Request for Reclassification for approval by appropriate State and Federal regulatory agencies;

Now Therefore Be It Resolved, that the Chairman and Board of Commissioners of Bladen County hereby endorse the Project and support the issuance of the required regulatory approvals, including the FONSI and the Reclassification; and

Be It Further Resolved, that the Chairman and Board of Commissioners of Bladen County resolve to consider purchasing water from the Authority upon completion of construction of the Project and in accordance with the terms of an executed Treated Water Service Agreement.

Adopted this 29 **day of** 8, **2006**

Greg Taylor, Chairman
Bladen County Board of Commissioners

County of Bladen

Board of Commissioners

Resolution

WHEREAS, the Lower Cape Fear Water and Sewer Authority has submitted to the State of North Carolina a request for reclassification of a segment of the Cape Fear River in Bladen and Cumberland County to Class Water Supply IV (WS-IV) and Class WS-IV CA (Critical Area Classification).

WHEREAS, the purpose of this request is to allow a new intake structure to be placed in the river which will provide a potable water supply for the Smithfield Packing Company and, potentially, for several counties and municipalities in the southern coastal plain; and,

WHEREAS, this proposal is an outgrowth of the October 2004 Cooperative Agreement entered into by the Environmental Management Commission, Division of Water Resources, and Lumber River Council of Governments, to assure that "a regional plan for long-range sustainable water supply sources is developed" that would include Smithfield's participation; and

WHEREAS, there are not any known planned discharges and developments in the entire proposed reclassification area that would likely be affected by the proposed reclassification.

NOW THEREFORE BE IT RESOLVED, that the Bladen County Board of Commissioners supports this proposed reclassification of the Cape Fear River; and,

BE IT FUTHER RESOLVED, that a copy of this resolution be submitted to the Department of Environmental and Natural Resources-Division of Water Quality, Planning Section.

Adopted this 4th **day of** August, **2008.**

Margaret L Moore
Margaret Lewis-Moore, Chairperson
Bladen County Board of Commissioners

ATTEST:

Ashley C Sasser
Ashley C. Sasser, Clerk

Cumberland County Board of Commissioners

Resolution of Support
For the Bladen Bluffs Regional Surface Water System

Whereas, the Board of Commissioners of Cumberland County (the Board) finds that the availability of water suitable for industrial use, irrigation, and human consumption is instrumental to the economic well-being of Cumberland County, particularly as it relates to the growth of industry and agriculture, and the development of commercial and residential properties; and

Whereas, the Board finds that the continued availability of adequate water resources will be promoted by the management of long-range sustainable water supplies; and

Whereas, the Board finds that the preservation of the regional groundwater resources supplying Cumberland and surrounding Counties will be enhanced by the development of alternative water sources, including surface waters; and

Whereas, the Lower Cape Fear Water & Sewer Authority (the Authority) is a non-profit public agency organized under the provisions of the North Carolina Water and Sewer Authorities Act to construct and operate water and sewer systems in Bladen, Brunswick, Columbus, New Hanover and Pender Counties and the City of Wilmington; and

Whereas, the Authority and Smithfield Packing Company, Inc., (Smithfield) have entered into a Memorandum of Understanding dated January 9, 2006, with respect to the terms, conditions and important elements regarding the development, construction and operation of an up to 35 million gallons per day raw water intake located behind Lock and Dam Number 2 on the Cape Fear River and a raw water storage reservoir and a water treatment plant to meet the needs of Smithfield's facility located in Tarheel, North Carolina, with the possibility of additional capacity to serve the needs of regional, local government and other industrial users (the Project); and

Whereas, the name of the Project shall be the Bladen Bluffs Regional Surface Water System; and

Whereas, the Authority has determined and reported that the Project will diminish the demand for groundwater which, in turn, will allow the recharge of regional aquifers, thereby increasing groundwater storage volume and improving its quality by reducing the intrusion of salt water; and

Whereas, the construction of the Project and the use of the surface water will require a reclassification of a portion of the Cape Fear River from a Class "C" surface

water to a "WS-IV" water supply classification (the Reclassification), including approximately 18,000 acres in southern Cumberland County; and

Whereas, the Reclassification must be approved through rulemaking by the North Carolina Environmental Management Commission; and

Whereas, the Authority must prepare an Environmental Assessment and the North Carolina Department of Environment and Natural Resources must issue a Finding of No Significant Impact as a prerequisite to permitting the Project; and

Whereas, the Authority has asked the Board to adopt a resolution endorsing the Project, the Reclassification and the required regulatory approvals.

Now therefore be it resolved, that the Board of Commissioners of Cumberland County hereby endorses the Project, without objection to the necessary reclassification of that portion of the Cape Fear River basin within the county's jurisdiction, subject to the conditions that:

(1) The Project is developed incident to a plan for the development of sustainable water sources satisfactory to and approved by the Division of Water Resources as contemplated by the Cooperative Agreement between the Environmental Management Commission, the Division of Water Resources, and the Lumber River Council of Governments dated October 14, 2004.

(2) The long-term impacts of the Project in conjunction with existing and planned surface water use from the entire Cape Fear River Basin be fully considered by the appropriate regulatory agencies.

(3) The Authority shall keep Cumberland County informed of the filing of all permit applications, agencies' requests for written comments, public hearings, and regulatory hearings conducted incident to the permitting process.

Adopted this 4th day of December, 2006.

Cumberland County Board of Commissioners
By:

Kenneth S. Edge

Kenneth S. Edge, Chairman

ANNOUNCEMENT

PROPOSED RECLASSIFICATION OF CAPE FEAR RIVER: PUBLIC HEARING SET FOR AUGUST

The N.C. Department of Environment and Natural Resources on behalf of the Environmental Management Commission (EMC) will conduct a public hearing in order to receive public comments on the proposed reclassification of a segment of the Cape Fear River in Bladen and Cumberland Counties (Cape Fear River Basin) to the Class Water Supply-IV (WS-IV) and Class WS-IV CA (Critical Area) classifications.

PUBLIC HEARING

Location: Multipurpose/Auditorium Bldg.
Bladen Community College
7418 Highway 41 West
Dublin, NC

Date: August 14, 2008

Time: 6:30 p.m.

GENERAL DEFINITION OF PROPOSED RECLASSIFICATION

A Water Supply-IV (WS-IV) water is protected as a water supply for drinking, culinary, or food processing purposes and for those uses where a higher WS classification (such as WS-I, II, or III) is not feasible. WS-IV waters are generally located in moderately to highly developed watersheds. In addition, a Critical Area (CA) is defined as the area within approximately one half mile and draining to a river intake for WS-IV waters. A Protected Area (PA) for WS-IV waters is defined as the area within 10 miles and draining to a river intake.

BACKGROUND OF RECLASSIFICATION REQUEST

A request for reclassification of a segment of the Cape Fear River was submitted by the Lower Cape Fear Water and Sewer Authority ("Authority"). The purpose for this rule change is to allow a new intake structure to be placed in the river. Initially, the new intake will provide a potable water supply for the Smithfield Packing Company. In the future, the intake will provide a source of potable water for potentially several southern coastal plain municipalities. The waters to be reclassified meet water supply water quality standards according to 2007 DWQ studies. The Division of Water Resources (DWR) and Division of Environmental Health (DEH) Public Water Supply (PWS) Section do not object to the proposed reclassification.

In October 2004, the EMC, the DWR, and the Lumber River Council of Governments (COG) entered into a cooperative agreement to assure that area groundwater resources are monitored and "a regional plan for long-range, sustainable water supply sources is developed" that would include Smithfield's participation and investigation of additional water sources, including surface water sources. A regional plan was developed, the Authority was formed to include representation of several municipalities, and this proposed reclassification is an outgrowth of that plan.

WATERS TO BE AFFECTED BY THE PROPOSED RECLASSIFICATION

The river segment requested for reclassification is currently Class C. The portion of the river proposed to be reclassified to WS-IV CA extends along the river from the proposed intake, which is to be placed approximately 2 miles upstream of County Road 1316, to a point approximately 0.5 miles upstream of the proposed intake. There are no named tributaries to the Cape Fear River in the proposed CA. The portion of the river proposed to be reclassified to WS-IV (PA) extends along the river from a point approximately 0.5 miles upstream of the proposed intake to a point approximately 1 mile upstream of Grays Creek. The proposed PA includes the entire length of several named tributaries, as well as the lower portions of many named tributaries, to the Cape Fear River; most of these waters are presently classified C and would be reclassified to WS-IV (PA), and the remaining waters, which carry the B classification, would be reclassified to WS-IV (PA) & B. Approximately 160 acres of land will become CA, and nearly 30,628 acres of land will become PA.

REGULATIONS ASSOCIATED WITH THE PROPOSED RECLASSIFICATION

If reclassified, development and discharge requirements associated with the WS-IV CA and WS-IV (PA) classifications will apply. There are several animal operations and one NPDES wastewater discharger, Dupont Fayetteville Works, in the proposed water supply watershed; the above-mentioned animal operations and discharger most likely will not be impacted by current regulations associated with this reclassification. There are not any known planned dischargers and developments in the entire proposed reclassification area that would likely be affected by

the proposed reclassification according to DWQ staff in the Fayetteville Regional Office and local government staff. Forestry and farming practices will not be affected.

The local governments that have land use jurisdiction within the proposed water supply watershed are responsible for developing and implementing the water supply watershed ordinances within the Protected Area and the Critical Area. These local governments will have 270 days after the effective date of the proposed reclassification to develop or modify water supply watershed protection ordinances that must at least meet the state's minimum requirements (15A NCAC 2B .0100 and .0200). The local governments with jurisdiction in the proposed water supply watershed consist of Bladen County and Cumberland County, which support and do not object to the proposal, respectively.

HOW TO SUBMIT COMMENTS

You may attend the public hearing and make relevant verbal comments, and/or submit written comments, data or other relevant information by September 15, 2008. The Hearing Officer may limit the length of time that you may speak at the public hearing, if necessary, so that all those who wish to speak may have an opportunity to do so.

The EMC is very interested in all comments pertaining to the proposed reclassification. All persons interested and potentially affected by the proposal are strongly encouraged to read this entire announcement and make comments on the proposed reclassification. The EMC may not adopt a rule that differs substantially from the text of the proposed rule published in the North Carolina Register unless the EMC publishes the text of the proposed different rule and accepts comments on the new text (see General Statute 150B 21.2 (g)). The proposed effective date for the final rule pursuant to this hearing process is May 1, 2009 pending EPA approval. Written comments may be submitted to Elizabeth Kountis of the Water Quality Planning Section at the postal address, e-mail address, or fax number listed below.

FOR ADDITIONAL INFORMATION

Division of Water Quality rules are located on the internet at http://www.ncwaterquality.org/admin/rules/. In addition, this announcement is located on the internet via http://www.ncwaterquality.org/admin/pubinfo/pubinfo.html (look under "Calendar" link), and more information about the waters proposed to be reclassified, including a map of these waters, is located on the internet at http://www.ncwaterquality.org/admin/emc/AGENDAMAY2008.htm (look under II.5.). Further explanations and details on reclassifications may be obtained by writing or calling:

Elizabeth Kountis
DENR-Division of Water Quality, Planning Section
1617 Mail Service Center
Raleigh, NC 27699-1617
phone (919) 807-6418
fax (919) 807-6497
Elizabeth.Kountis@ncmail.net

In the case of inclement weather on the day of the scheduled public hearing, please contact the above telephone number for a recorded message regarding any changes to the location, day or time of the hearing.

North Carolina
Department of Environment and Natural Resources

Michael F. Easley, Governor
William G. Ross Jr., Secretary

NCDENR

July 11, 2008

MEMORANDUM

TO: Ed Beck

FROM: Coleen Sullins

SUBJECT: Hearing Officer Designation

I hereby designate you as the Hearing Officer for the August 14, 2008 public hearing in Duplin, North Carolina. The hearing will be conducted at 6:30 p.m. in the Multipurpose/Auditorium Building on the campus of Bladen Community College. The purpose of the hearing is to receive public comments on the proposed reclassification of a segment of the Cape Fear River in Bladen and Cumberland Counties to Class Water Supply-IV (WS-IV) and Class WS-IV Critical Area (CA).

You are requested to hold the hearing and receive all relevant comments. Following the close of the hearing record on September 15, 2008, staff will work with you in developing findings and recommendations to be considered by the EMC. If reclassified, the effective date of the rule, provided no legislative review is required, is expected to be May 1, 2009.

A copy of the public announcement for this hearing will be forwarded to you soon. I appreciate your willingness to be a part of this rule-making process. If you have any questions, please contact Elizabeth Kountis.

cc: Elizabeth Kountis
Meagen Benton

RECEIVED
JUL 09 2008
BY:

LIST OF ATTENDEES

PROPOSED RECLASSIFICATION OF CAPE FEAR RIVER
PUBLIC HEARING: AUGUST 14, 2008 DUBLIN, NC

Hearing Officer

Beck	Ed	Surface Water Protection Supervisor, Wilmington Regional Office

Other Division of Water Quality Staff (CSU = Classifications and Standards Unit)

Kountis	Elizabeth	Senior Environmental Specialist, CSU, Planning Section
Clark	Alan	Chief, Planning Section
Faerber	Matthew	Classifications, GIS and Mapping, CSU, Planning Section
Manning	Jeff	Supervisor, CSU, Planning Section
Deamer	Nora	Cape River Basin Planner, Basinwide Planning Program Unit, Planning Section
Moore	Sandra	State Standards Co-coordinator, CSU, Planning Section
Remington	Nikki	Surface Water and Groundwater Standards, CSU, Planning Section
Kreiser	Gary	Groundwater Variance and Rulemaking, CSU, Planning Section
Caldwell	Pete	Supervisor, Intensive Survey Unit, Environmental Sciences Section
Henson	Belinda	Surface Water Protection Supervisor, Fayetteville Regional Office

Citizens in Attendance (*=made verbal comments)

Last Name	First Name	Entity Representing	City	County	State
Elkins	Greg	Bladen County	Elizabethtown	Bladen	NC*
Morris	Robert	Bladen County	Elizabethtown	Bladen	NC
Springer	Doug	Cape Fear Riverkeeper and River Watch	Wilmington	New Hanover	NC*
Dowbiggin	Bill	CDM	Raleigh	Wake	NC
Buckley	Brenan	CDM	Raleigh	Wake	NC
Ham	Chad	City of Fayetteville	Fayetteville	Cumberland	NC*
Sallos	Leroy	Columbus County	Whiteville	Columbus	NC
Davis	Amanda	Columbus County	Whiteville	Columbus	NC
Melvin	Ed	Cumberland County	Fayetteville	Cumberland	NC
Cooney	Tom	Cumberland County	Fayetteville	Cumberland	NC*
Lloyd	Tom	Cumberland County	Fayetteville	Cumberland	NC*
Raynor	Harvey	Cumberland County	Fayetteville	Cumberland	NC
Sanchez-King	Morella	HUA	Hampstead	Pender	NC
Council	George	Landowner	White Oak	Bladen	NC
Council	Patricia	Landowner	White Oak	Bladen	NC
Betz	Don	Lower Cape Fear Water & Sewer Authority	Leland	New Hanover	NC*
Perry	Jim	Lumber River Council of Governments	Lumberton	Robeson	NC*
Melvin	Julie	NA	Fayetteville	Cumberland	NC
Alvarez	Alex	NA	Hampstead	Pender	NC
Morris	Rick	NCDA	Bladenboro	Bladen	NC
Ward	William	Self	Clarkton	Bladen	NC
Edge	Phil	Self	NA	NA	NA*
Johnson	Larry	Smithfield	Tar Heel	Bladen	NC*
Bailey	Keith	Smithfield	Smithfield	Isle of Wight	VA
LaBudde	Sylvia	Smithfield	NA	NA	NA
Brisson	William	State House of Representatives	Dublin	Bladen	NC*
Cox	Stevie	Town of Chadbourn	Chadbourn	Columbus	NC
Bryant	Alton	Town of Elizabethtown	Elizabethtown	Bladen	NC

Dependable Reliable Cost-Effective Regional

Good Evening, I am Don Betz, the Executive Director for the Lower Cape Fear Water & Sewer Authority whom is the applicant for the proposed reclassification of the Cape Fear River to Water Supply –IV. The Lower Cape Fear Water & Sewer Authority was incorporated May 13, 1970 as a regional water supplier with a 45 MGD Intake/Pump Station located behind Lock and Dam #1 on the Cape Fear River, this intake is also located in Bladen County. The LCFWASA membership consists of the Counties of Bladen, Brunswick, Columbus, Pender, New Hanover and the City of Wilmington. Each member has one or more representatives on the Board of Directors.

This original Intake/Pump Station provides a dependable and cost effective regional water supply via Water Supply Agreements with Brunswick County, Pender County, and New Hanover County by way of assignment of the previous water agreement to the new Cape Fear Public Utility Authority (effective July 1, 2008) as well as two Industrial Companies.

Brunswick County, Pender County and New Hanover County also have ground water supply systems. The Lower Cape Fear Water & Sewer Authority provides a balance to these county water systems with its surface water asset to assist in modifying the over all effect of the environmental impact upon the areas aquifers.

The Lower Cape Fear Water & Sewer Authority has successfully set up this model of regionalism with balancing surface water resources with ground water resources for over twenty five years. This model is the initiative for the proposed Bladen Bluffs Regional Surface Water System with an intake in the Cape Fear River at Tar Heel to provide an alternative source of drinking water for the region via a 30 MGD raw water intake/pump station and a 4 to 6 MGD drinking water treatment plant. The resulting benefit of the proposed reclassification will allow the Authority to utilitmately serve its two remaining member counties, Bladen and Columbus with a surface water system thus balancing those counties reliance on ground water with an alternative.

The additional surface water system on the Cape Fear River, as a result of the reclassification application, will provide an additional drought relief asset, during those times, as well as position the region for additional economic growth. It also positions the Authority to provide an opportunity for users to enable the aquifer to replenish itself by switching to a surface water system from the current groundwater systems.

Furthermore, this location may provide, in the near term, an alternative source of drinking water to the residents of Cumberland County currently served by a groundwater system only about eight miles to the west of the proposed project site. In the long term view, it is

1107 New Pointe Blvd, Suite 17
Leland, North Carolina 28451

phn 910.383.1919 *fax* 910.383.1949
www.lcfwasa.org

Water is our business

conceivable that this system may serve as a surface water alternative to the City of Clinton and the Sampson County ground water systems.

Reference is made to the Cooperative Agreement, dated October 2004, in which the Environmental Management Commission, the Division of Water Resources and the Lumber River Council of Governments entered into. The "charge" of this agreement was to develop "a regional plan for long-range sustainable water supply sources that would include Smithfield Packing Company's participation to specifically include surface water sources". The Cooperative Agreement called for a regional plan proposal to be presented to the EMC by the end of February 2006. The Lumber River Council of Governments facilitated a stakeholders group to review the process for a regional plan and engaged an Engineering Firm (HUA) to conduct a feasibility report.

While that was in process the Lower Cape Fear Water & Sewer Authority presented to Smithfield Packing Company a conceptual plan and illustrated to the many stakeholders that a Public Water Authority already existed in Bladen County. The Authority and Smithfield Packing Company signed an MOU in January of 2006 and together provided the concept for the regional surface water system to the EMC by the date required in the Cooperative Agreement.

In October, 2006 the parties initiated a Project Development Agreement which provided for the submissions of an Application for Reclassification and an Environmental Assessment document.

Recently the Bladen Bluffs Regional Surface Water System received its Finding of No Significant Impact or FONIS from DENR allowing the project to move forward to final design, permitting, bidding and construction. Tonight DENR is conducting the Public Hearing for the Application for Reclassification of the surface water source so that the project can become a reality. This regional surface water system will be financed by the issuance of Revenue Bonds by the Authority in 2009, however such a business enterprise needs immediate customers to pay the principal and interest payments of the debt. Thus, the primary customer of this surface water system is the Authority's partner, Smithfield Packing Company located south east of the project facility along NC 87. This regional surface water system will provide a transition for SPC from its current ground water system.

However, with the location of this new surface water system positioned along this east/west corridor it is easily accessible to the existing Bladen County ground water distribution system and allows for the future assistance of USDA to financially assist other municipal systems both large and small.

By the end of the end of the comment period, September 15, 2008 the project itself will be at a 60% design level, with final design completed by the end of 2008. The current projected cost of the project is approximately 25 million dollars however a recent cost review included a 5.6% increase over projection in October of 2007. With current inflationary conditions it is conceivable that the project will approach 27.1 million dollars before construction is finished in 2011.

The Board of Directors of the Lower Cape Fear Water & Sewer Authority has respectfully requested the reclassification of the proposed section of the Cape Fear River to WS-IV as the Bladen Bluffs Regional Surface Water System will provide an alterative drinking water source not now available in this region to service various county, city, town, and industrial water systems now relying solely on ground water aquifer withdrawals.

Thank you,

Don Betz
Executive Director
LCFWASA
August 14, 2008

LRCOG
Dedicated to Regional Excellence

Lumber River Council of Governments
4721 Fayetteville Road
Lumberton, North Carolina 28358
Tel. (910) 618-5533 • Fax (910) 618-5576
E-Mail: lrcog@lumberrivercog.org
web : www.lumberrivercog.org

August 14, 2008

Elizabeth Kountis
DENR-Division of Water Quality, Planning Section
1617 Mail Service Center
Raleigh, NC 27699-1617

Dear Ms. Kountis;

This letter is being written in support of the proposed reclassification of a portion of the Cape Fear River in Bladen and Cumberland Counties for the purpose of constructing a surface water intake by the Lower Cape Fear Water and Sewer Authority (LCFWSA).

Under a cooperative agreement (copy attached) between the LRCOG, the Environmental Management Commission (EMC) and the Division of Water Resources (DWR), our agency has been working with water stakeholders in the Southern Coastal Plain to monitor ground water use and develop plans for future alternate water supplies. Part of this agreement pointed to the need for Smithfield Packing Company in Bladen County to develop an alternate source of water for its production facility. Specifically it was suggested that a surface water intake on the Cape Fear River be developed.

In cooperation with the LCFWSA, Smithfield and water stakeholders in and around Bladen County have worked to accomplish this concept. This reclassification is a key to the continued development of this facility and meeting the state's request to keep ground water levels from declining.

We urge the Division of Water Quality and EMC approve this request.

Sincerely,

James Perry,
Executive Director

Attachment

August 27, 2008

Elizabeth Kountis
DENR-Division of Water Quality, Planning Section
1617 Mail Service Center
Raleigh, NC 27699-1617

Dear Ms. Kountis;

This letter is sent by local governments in Bladen County in support of the proposed reclassification of a portion of the Cape Fear River in Bladen and Cumberland Counties for the purpose of constructing a surface water intake by the Lower Cape Fear Water and Sewer Authority (LCFWSA).

The Municipal and County Association of Bladen (MCAB) represents local governments in Bladen County. The MCAB, at its August 26th meeting approved sending this letter in support of the LCFWSA and its proposed reclassification.

Under a cooperative agreement between the Lumber River Council of Governments (LRCOG), the Environmental Management Commission (EMC) and the Division of Water Resources (DWR), water stakeholders in Bladen County and Southern Coastal Plain have been working together to monitor ground water use and develop plans for future alternate water supplies. Part of this agreement pointed to the need for Smithfield Packing Company in Bladen County to develop an alternate source of water for its production facility. Specifically it was suggested that a surface water intake on the Cape Fear River be developed.

In cooperation with the LCFWSA, Smithfield and water stakeholders in and around Bladen County have worked to accomplish this concept. This reclassification is a key to the continued development of this facility and meeting the state's request to keep ground water levels from declining.

We urge the Division of Water Quality and EMC approve this request.

Sincerely,

Larry Smith

Larry Smith, President
Municipal and County Association of Bladen

Public Comments on the Proposed Reclassification of the Cape Fear River to Class WS-IV

Charles Ham, Public Works Commission (PWC) of the City of Fayetteville
Phone – (910)-223-4702
Email – chad.ham@faypwc.com

My name is Chad Ham and I am the Environmental Programs manager for the Public Works Commission – PWC – of the City of Fayetteville. We have a few comments on the proposed reclassification.

PWC is the primary provider of water and sewer service for the City of Fayetteville and most of Cumberland County. In this role, our organization has a strong interest in protection of water quality of the Cape Fear River. We depend on the Cape Fear River for most of our water supply and we rely on our neighbors upstream and the State to ensure that we have good quality and sufficient quantity of water to serve our customers.

Likewise, PWC operates two water reclamation facilities that discharge to the Cape Fear River. We recognize that the water we discharge has the potential to affect water quality in the Cape Fear River downstream of Fayetteville and in particular, to affect downstream water intakes such as the current intake operated by Lower Cape Fear Water and Sewer Authority near Lock and Dam No. 1. PWC takes the responsibility of water quality protection seriously and strives for the highest performance of our facilities to protect water quality.

In addition, PWC has been very involved with protection efforts for the Cape Fear River. First, we worked with our neighboring communities, industries, and interested parties in the middle portion of the basin to form the Middle Cape Fear River Basin Association in 1998. This association has operated an extensive monitoring program of over 30 water quality stations in the middle basin since 1998. The group has also funded a number of special studies to investigate water quality issues. PWC and the association have actively worked with the Division of Water Quality on each Basinwide water quality management plan they have developed as well as all other major water quality issue. PWC has also worked closely with the Division of Water Resources on water quantity issues and has twice provided funding to support development of a Basinwide hydrological model.

In regard to the proposed reclassification, PWC already has treatment requirements that were developed, in part, to protect downstream use of the river as a water supply. Currently, the river is classified WS-V and WS-IV - beginning approximately 48 miles downstream of the discharge of our Rockfish Creek Water Reclamation Facility. The proposed WS-IV protected area will begin about 12 miles downstream from our Rockfish WRF discharge. Based on our knowledge of the river and river basin and informal discussions with DWQ staff, we have concluded that there will be no changes in our regulatory requirements as a result of this reclassification. There is a large amount of assimilation provided by the Cape Fear River and the proposed intake will still be about 17 miles downstream of our discharge. We request that if there are potential changes to our NPDES permit requirements that they be identified as part of this process and be presented as part of the rule-making record. We also request that this information be shared with PWC prior to EMC action on this request.

Again, we thank you an opportunity to speak tonight. My contact information is included on my written statement if you have any questions.

August 29, 2008

Citizens For Clean Industry
P. O. Box 339
Elizabethtown, NC 28337

Elizabeth Kountis
DENR-Division of Water Quality, Planning Section
1617 Mail Service Center
Raleigh, NC 27699-1617

Re: Public Hearing comments on proposed reclassification of Cape Fear River for Smithfield Foods.

We have many concerns about this proposal. Some of them include:

1. Groundwater distress from SFI is already noted and documented.

2. Plans to draw from four to as much as thirty million gallons per day will certainly have some negative impact on the Cape Fear River and on the Cape Fear River Basin. More study needs to be done.

3. Who is the Bladen Bluff Regional Surface Treatment Plant? Is this a new company? Where are they located? Is this a new venture or have they done this before? What is their environmental track record?

4. Land owners will have a negative impact from this. "Tighter restrictions" should be clearly defined and the impact on land owners and input from them needs to be more fully addressed.

5. An environmental impact study needs to be done on this project to prevent further damage to the river and surrounding lands.

Sincerely,

Miriam Clark

Miriam Clark

Mary Beth Edge

Mary Beth Edge
Citizens For Clean Industry

August 29, 2008

16224 NC Hwy. 53 W.
White Oak, NC 28399

Elizabeth Kountis
DENR-Division of Water Quality, Planning Section
1617 Mail Service Center
Raleigh, NC 27699-1617

Re: Public hearing comments on proposed reclassification of Cape Fear River for Smithfield Foods.

We are landowners who own land bordering the Cape Fear River on both sides. This is a substantial amount of land and we have owned it for many years.

Our concerns include all of those expressed by Citizens for Clean Industry. In addition, we have been negatively impacted by the Smithfield Foods plant since it was built in Tar Heel joining our farm. Our air is constantly polluted, our well has gone dry and it is noisy. The truck traffic is constant.

Now we are facing "tighter restrictions" as to how we may use our river land. We have already been restricted enough from enjoying our daily life. We are opposed to any further restrictions. This plant has proven that it is detrimental to the environment.

The State will be negligent if an environmental impact study is not done on this project. We also want to know what "tighter restrictions" means to us.

Sincerely,

Herschel Edge

Herschel Edge

Mary Beth Edge

Mary Beth Edge

Van Stout

Van Stout

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APPENDIX

Division of Water Quality

January 23, 2008

MEMORANDUM

To: Elizabeth Kountis

From: Harold Quidley HQ
Laura Spell LMS

Through: Jimmie Overton JRO

Subject: Cape Fear River Reclassification Study 2007
(subbasins 03-06-15 and 03-06-16)

Findings: 1. Based on fecal coliform sampling (5 events in 30 days), one-time chemical sampling and review of historical DWQ Ambient Monitoring data, the Cape Fear River in the designated study area will meet Water Supply IV standards during normal seasonal flow conditions.
2. A single parameter (Bromodichloromethane) was found at levels slightly above the DWQ water quality standard of 0.55 µg/L in 3 volatile organic (VOA) samples collected in the lower study reach.
3. It should be noted that the reduction of dilution of the Cape Fear River, in association with the ongoing drought might have attributed to the slightly increased Bromodichloromethane levels detected during the study.

Background:
At your request, the Intensive Survey Unit (DWQ) conducted a reclassification study in an approximate 10-mile reach of the Cape Fear River in Bladen and Cumberland Counties. The Lower Cape Fear River Water and Sewer Authority (LCFWASA) has requested that the section be reclassified from C to Water Supply-IV [WS-IV CA and WS-IV (PA)]. The request states that the reclassification is needed in order to install a raw water (supply) intake. If approved, the raw water intake would supply a 4 MGD surface water treatment plant (SWTP). The initial water to be withdrawn would be used by Smithfield Packing for all requirements of pork processing and employee use. The study area includes a 9.97 mile river segment from (Lat 34.960111 Long – 78.815278) downstream to (Lat 34.771389 Long -78.797778) near Tar Heel. The proposed intake is located approximately 1 mile upstream from SR1316 (Myers St. Tar heel).

Drought and hydrology information:
The Cape Fear River reclassification study request was received by the ISU during March 2007, however due to the extreme drought persisting throughout the summer and fall, field sampling was repeatedly postponed to assure that study results would reflect water quality in the Cape Fear River during normal seasonal conditions. During October 2007 it was decided to proceed with a preliminary study even though extreme drought and unusually low water levels continued to affect the region. On 12/04/07 ISU staff completed the 5-week study that included physical profiles and chemical sampling at 7 sites in the requested reclassification reach of the Cape Fear River, (Station Locations Table 1 and Map Figure 1). Resulting data from the study will also be used as part of the ongoing drought monitoring effort being conducted by DWQ during 2007-2008. A review of 25-years of USGS data for William O'Huske Lock and Dam #3 indicates that the mean of monthly discharges for

the month of November is 3,020 cfs with a range from 978.3 cfs to 10,190 cfs. Preliminary data from the USGS site for the month of November 2007 (Cape Fear Reclassification Study) indicates that the mean monthly discharge was < 600 cfs. A total of 0.23 inches of precipitation was recorded at the Lock during the study with a maximum of 0.17 inches occurring during one event on 11/15/07. River stage remained relatively stable throughout the study with gage height measurements fluctuating within a relatively narrow range of 0.17 inches. Mean discharge, gage height (stage) and precipitation data (USGS 02105500 Cape Fear River at William O' Huske Lock nr Tar Heel, NC) for the month of November 2008 can be found in Table 2.

Table 1. Cape Fear River Reclassification Study Site Locations

CPF1	Cape Fear River at upper boundary of requested reclassification reach. Lat 34.906111 Long -78.815278	Cumberland Co.
CPF2	Cape Fear River 0.3 miles downstream from the mouth of Grays Creek. Lat 34.887694 Long -78.815639	Cumberland Co.
CPF3	Cape Fear River 1.5 miles upstream from Willis Creek. Lat 34.872028 Long -78.819444	Cumberland Co.
CPF4	Cape Fear River 250 feet upstream William O'Huske Lock and Dam 3. Lat 34.837083 Long -78.823111	Bladen Co.
CPF5	Cape Fear River 0.73 miles downstream from Georgia Branch. Lat 34.807056 Long -78.813611	Bladen Co.
CPF6	Cape Fear River 0.48 miles downstream from UT Lat 34.789111 Long -78.801167	Bladen Co.
CPF7	Cape Fear River at lower boundary of requested reclassification reach. Lat 34.771389 Long -78.797778	Bladen Co.

Study Parameters:

1. Physical profiles (dissolved oxygen, temperature, pH and conductivity) measured at the surface, mid-depth and bottom at each site during each sampling event.

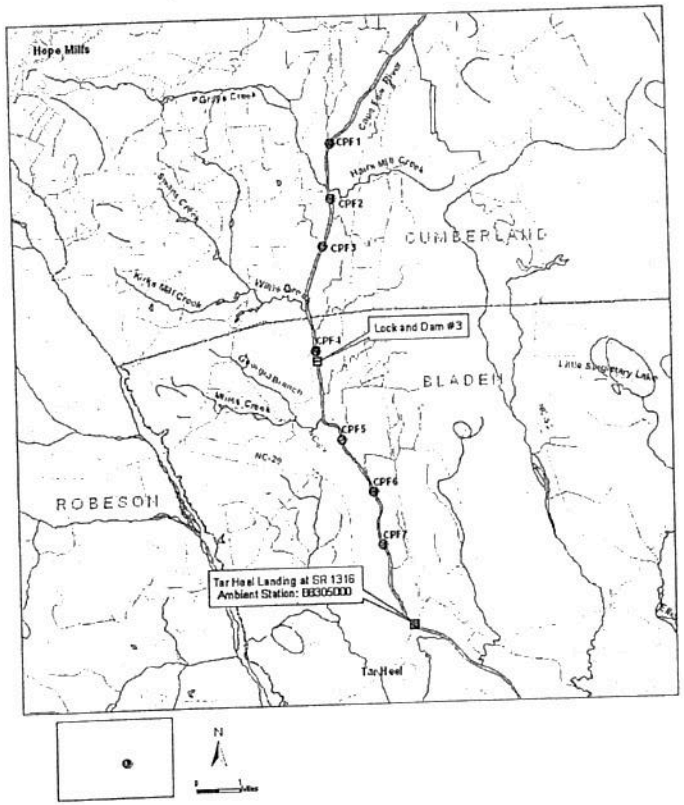
2. Fecal coliform samples collected weekly at each site during study, (5 sampling events conducted during a 30-day period).

3. A one-time sampling event at each site for water chemistry consisting of the following parameters:
Nitrogen & Phosphorus, (NH3, TKN, NO2 + NO3, NO3, P-Total)
Sulfate
Methylene-Blue-Active Substances (MBAS)
Metals (nickel, calcium and magnesium)
Organochlorine Pesticides
Acid Herbicides
Base/Neutral & Acid Extractable Organics
Purgeable Organics (VOA)

4. Review of DWQ Ambient Monitoring Station Summary (B8305000 Cape Fear River at SR1316 at Tar Heel).

Figure 1

Cape Fear River Reclassification Study Sites - 2007



Study Results and Discussion:

Physical Parameters

Physical measurements, (temp, dissolved oxygen, pH and conductivity) were taken at the surface, mid-depth and bottom during each sampling event at all sites during the study (Table 3). Physical parameters were measured using a Hydrolab Quanta multi-parameter meter. Meters were calibrated (initial and terminal) using the DWQ ISU Standard Operating Procedures for Physical and Chemical Monitoring, Version 1.3. Physical profiles indicated all values to be within acceptable seasonal levels with temperatures gradually decreasing throughout the month of November. Dissolved Oxygen (D.O.) ranged from 8.01 mg/L to 9.89 mg/L in the study reach with % saturation levels reaching 90.7% well within the 110% water quality standard. Conductivity values were typical for this area of the Cape Fear River ranging from 108 umhos/cm to 180 umhos/cm with the lowest values recorded during the first week of sampling. A storm event occurred during the week proceeding 11/06/07 (1st sampling event) resulting in an increase in flow and dilution and a subsequent reduction in conductivity values in the Cape Fear River. Decreasing flow and stage can be seen at Lock and Dam #3 during the first week of the study (Discharge, Gage Height and Precipitation, Table 2). Values for pH ranged from 6.0 su to 7.9 su at the 7 sites with slightly higher values measured at the surface. These higher values at the surface are likely the result of minimal algal productivity resulting from increased sunlight in the upper portion of the water column. A review of DWQ Ambient Monitoring System Station Summaries (Table 4) for station B8305000 (Cape Fear River at SR1316 at Tar Heel) found that all physical parameters measured during the Cape Fear River reclassification study were typical of water conditions occurring during the period from 01/15/02 through 12/06/06. DWQ ambient monitoring station B8305000 is located 2.07 miles downstream from CPF7.

Fecal Coliform

One focus of the 2007 study was to assess whether the section of the Cape Fear River would meet fecal coliform bacteria requirements of a geometric mean of less than 200/100 ml (MF count) based on at least five consecutive samples examined during any 30-day period. The 7 sampling sites were sampled five consecutive times during a thirty-day period between 11/06/07 and 12/04/07. The resulting data (Table 3) indicated that the geometric mean for all six sites did not exceed 200/100 ml and did not exceed 400/100 ml in more than 20% of the samples. Geometric means for each site were well below the limits and ranged from 5.86 /100 ml to 44.7 with the highest mean detected at CPF1, the uppermost site. The lowest geometric means occurred at the 3 most downstream sites CPF5 through CPF7 with geometric means ranging from 5.86 to 8.16/100 ml. These values are consistent the DWQ Ambient Monitoring System Station Summary for station B8305000 (Table 4) which provides a geometric mean of 47/100 ml for a total of 58 samples (02/01/31 to 06/12/12).

Chemical Parameters

Chemical sampling was conducted at sites CPF5, CPF6 and CPF7 on 12/03/07 and at sites CPF1, CPF2, CPF3 and CPF4 on 12/04/07. The DWQ Chemistry Laboratory performed all chemical analyses for the Cape Fear River reclassification study.

Metals samples collected during the Cape Fear River reclassification study included nickel (Ni), calcium (Ca) and magnesium (Mg). All nickel values were reported as "not detected". Calcium and magnesium results were used to calculate hardness data for the study. Resulting hardness values ranged from 26.35 mg/L to 27.77 mg/L, below the water quality standard of 100 mg/L. The DWQ Ambient Monitoring System Station Summary for station B8305000 at Tar Heel (01/15/02 through 12/06/06) indicated 17 sampling events for the following metals; aluminum (Al), arsenic (As), cadmium (Cd), chromium (Cr), iron (Fe), lead (Pb), mercury (Hg), nickel (Ni) and zinc (Zn). Results of arsenic, cadmium, chromium, mercury, lead and nickel were reported as "non detect" for all samples. A total of 17 copper samples resulted in 2 "non detect" and 2 samples above the action level standard of 7 µg/L. A total of 17 iron samples resulted in 5 samples greater than the 1.0 mg/L action level standard. Analysis for Zinc resulted in 11 samples as "non detect" with the remaining 6 samples below the water quality standard of 50 µg/L. Metals data for the Cape Fear River reclassification study can be found in Table 4 (Ambient Monitoring System and Station Summary) and Table 5 (Cape Fear River Water Samples– Nutrients, Metals, MBAS, Sulfate and Hardness).

Chlorinated Pesticides
Pesticide samples were collected at each site with analysis resulting in all 51 target compounds reported as "non detect" (Table 6). All 7 sites, had additional unidentified peaks ranging in numbers from 1 to 9. Unidentified peaks are usually found in pesticide scans and are not considered significant.

Acid Herbicides
Herbicide sample analysis for each site resulted in all 15 target compounds reported as "non detect" with the number of unidentified peaks ranging from 5 to <10 (Table 6). Unidentified peaks are usually found in herbicide scans and are not considered significant.

Semivolatile Organics (BNA's)
Semivolatile Organics samples were collected at each site with analysis resulting in all 66 target compounds reported as "non detect" with 0 unidentified peaks (Table 6).

Volatile Organics (VOA's)
Volatile organic samples were collected at each site and were analyzed for 60 targeted compounds (Table 6);

Chloroform was detected in all samples and ranged from 0.1 µg/L to 0.91 µg/L with the lowest value detected at CPF7, the most downstream site. Chloroform is commonly used as a solvent, a reagent and may also be used in the production of dyes and pesticides. Chloroform values reported for the Cape Fear River reclassification are below the DWQ water quality standard of 5.6 µg/L.

Bromodichloromethane was detected in VOA samples from all of the Cape Fear River sites with the exception of CPF4. Reported values for bromodichloromethane were 0.46 µg/L (CPF1), 0.33 µg/L (CPF2), 0.34 µg/L (CPF3), 0.60 µg/L (CPF5), 0.58 µg/L (CPF6) and 0.61 µg/L (CPF7). Sample results from 3 of the sites listed above were slightly higher than the DWQ water quality standard of 0.55 µg/L. Most bromodichloromethane is formed as byproduct when chlorine is added to water-supply systems to kill bacteria.

VOA analysis detected 1,2,4-Trimethylbenzene in samples from Sites CPF6 and CPF7. Trimethylbenzene is primarily used as a gasoline additive. Trimethylbenzene was detected at 0.37 µg/L at site CPF6 and 0.39 µg/L at site CPF7, both values well below the DWQ water quality standard of 850 µg/L.

Toluene was detected in very low levels in VOA samples collected at CPF6 (0.12 µg/L) and CPF7 (0.14 µg/L). Both sample results were qualified as (N3) = Estimated concentration is <PQL and >MDL. Also detected at very low levels at CPF6 and CPF7 was m,p-Xylene (0.41 and 0.42 respectively). Both sample results were qualified as (N3) = Estimated concentration is <PQL and >MDL.

Nutrients
Nutrient levels for NH3, TKN, N02 + N03, Nitrate and P total were collected at each of the seven sites (Table 5). NH3 values ranged from 0.03 mg/L to 0.05 mg/L and may be considered lower than typically measured in this reach of the Cape Fear River. This is evident when comparing these values to DWQ Ambient Monitoring System Station Summaries for station B8305000 (Cape Fear River at SR1316 at Tar Heel) Table 4. This range of NH3 values fall between the 10th and 25th percentile of total observations at the Tar Heel ambient site. This was likely the result of the drought conditions occurring during the study that provided residence time necessary for nitrification to take place. This can also be seen in moderately low TKN values (ranging from 1.2 mg/L to 1.5 mg/L) and relatively higher than expected NO2 + NO3 values (ranging from 1.2 mg/L to 1.5 mg/L). Values for TKN fall between the 10th and 50th percentile while NO2 +NO3 values fall in the 90th percentile indicating little localized drainage entering the system resulting from low flow conditions. Total phosphorus values ranged from 0.17 mg/L to 0.23 mg/L and were found at levels normally detected in the area. Nitrate values ranged from 1.2 mg/L to 1.5 mg/L, below the 10.0 mg/L water quality standard for Class WS-IV waters.

Additional Chemical Parameters(Sulfate, MBAS, Fluoride and Chloride)
Sulfate levels were detected in a relatively narrow range of 18 mg/L to 20 mg/L at the study sites, below the 250 mg/L water quality standard for Class WS-IV. MBAS results were found to be at "non detect" levels or at 0.1 mg/L with the water quality standard for Class WS-IV at 0.5 mg/L. Fluoride levels were "non detect" or 0.4 mg/L within the Class WS-IV standard of 1.8 mg/L. Chloride results were reported at 19 mg/L or 20 mg/L at all sites, below the 250 mg/L water quality standard for Class WS-IV. Sulfate, MBAS, fluoride and chloride data can be found in Table 5.

cc: Belinda Henson (FRO)
Dianne Reid (Basinwide Plannng Program Unit)
Danny Strickland (FRO)

Table 2. William O'Huske Lock and Dam #3 USGS Site 02105500
Mean Daily Discharge, Gage Height and Precipitation

Date mm/dd/yy	Mean Discharge cfs	Mean Gage Height ft (stage)	Precipitation in. daily total
11/06/07	669	1.08	0.00
11/07/07	578	0.99	0.00
11/08/07	533	0.94	0.00
11/09/07	506	0.91	0.00
11/10/07	520	0.93	0.00
11/11/07	528	0.93	0.00
11/12/07	518	0.92	0.00
11/13/07	503	0.91	0.00
11/14/07	506	0.91	0.00
11/15/07	517	0.92	0.17
11/16/07	528	0.93	0.00
11/17/07	542	0.95	0.00
11/18/07	546	0.95	0.00
11/19/07	552	0.96	0.00
11/20/07	542	0.95	0.00
11/21/07	540	0.95	0.00
11/22/07	546	0.95	0.02
11/23/07	560	0.97	0.00
11/24/07	539	0.95	0.00
11/25/07	519	0.92	0.01
11/26/07	558	0.97	0.01
11/27/07	623	1.03	0.01
11/28/07	651	1.07	0.00
11/29/07	*	1.05	0.00
11/30/07	630	1.04	0.00
12/01/07	615	1.03	0.00
12/02/07	601	1.01	0.00
12/03/07	603	1.01	0.01
12/04/07	558	1.00	0.00

* no discharge data available for this day

Table 3. Cape Fear River Physical Data (surface, mid, bottom) and Coliform (surface only, 5 samples in 30 days)

Station	Date mm/dd/yy	Depth s/m/b	Time hrs	Temp (°C)	DO (mg/L)	pH (su)	Cond umhos/cm	Fecal Coliform #/100 ml	Geometric Mean Fecal #/100 for Site
Cape Fear River Site: CPF1	11/06/07	surface	1105	14.5	8.16	6.9	112	38	
	11/06/07	mid	1105	14.5	8.01	6.8	112		
	11/06/07	bottom	1105	14.5	8.06	6.9	112		
	11/14/07	surface	1115	11.9	8.70	6.6	149	70 (B4)	
	11/14/07	mid	1115	11.9	8.65	6.7	150		
	11/14/07	bottom	1115	11.9	8.69	6.5	149		
	11/19/07	surface	1050	11.6	8.61	7.4	168	150	
	11/19/07	mid	1050	11.6	8.78	7.3	168		
	11/19/07	bottom	1050	11.6	8.67	7.2	169		
	11/28/07	surface	1120	11.8	8.66	7.0	172	41	
	11/28/07	mid	1120	11.8	8.59	7.0	172		
	11/28/07	bottom	1120	11.8	8.85	6.9	172		
	12/04/07	surface	1200	10.4	9.24	7.4	179	11	
	12/04/07	mid	1200	10.4	9.26	7.3	179		44.77
	12/04/07	bottom	1200	10.4	9.23	7.3	179		
Cape Fear River Site: CPF2	11/06/07	surface	1045	14.8	8.01	6.9	114	36	
	11/06/07	mid	1045	14.6	7.80	6.8	114		
	11/06/07	bottom	1045	14.6	7.95	6.8	114		
	11/14/07	surface	1055	12.3	8.41	6.7	148	9	
	11/14/07	mid	1055	12.0	8.42	6.8	150		
	11/14/07	bottom	1055	12.0	8.41	6.6	150		
	11/19/07	surface	1030	11.7	8.60	7.5	169	150	
	11/19/07	mid	1030	11.7	8.62	7.4	170		
	11/19/07	bottom	1030	11.7	8.60	7.4	170		
	11/28/07	surface	1100	11.9	8.66	7.2	165	5	
	11/28/07	mid	1100	11.8	8.70	7.1	165		
	11/28/07	bottom	1100	11.8	8.58	7.0	165		
	12/04/07	surface	1120	10.6	8.86	7.5	169	15	
	12/04/07	mid	1120	10.6	8.82	7.4	169		20.52
	12/04/07	bottom	1120	10.6	8.84	7.3	169		
Cape Fear River Site: CPF3	11/06/07	surface	1020	14.8	7.77	6.8	108	39	
	11/06/07	mid	1020	14.7	7.70	6.8	109		
	11/06/07	bottom	1020	14.7	7.77	6.8	109		
	11/14/07	surface	1025	12.1	8.41	6.7	146	20	
	11/14/07	mid	1025	12.0	8.40	6.8	148		
	11/14/07	bottom	1025	12.0	8.45	6.6	146		
	11/19/07	surface	1015	11.9	8.40	7.7	167	150	
	11/19/07	mid	1015	11.8	8.47	7.6	168		
	11/19/07	bottom	1015	11.8	8.37	7.5	168		
	11/28/07	surface	1045	11.7	8.69	7.2	166	39	
	11/28/07	mid	1045	11.8	8.66	7.1	166		
	11/28/07	bottom	1045	11.7	8.57	7.0	167		
	12/04/07	surface	1115	10.8	8.74	7.5	172	17	
	12/04/07	mid	1115	10.8	8.83	7.3	172		37.83
	12/04/07	bottom	1115	10.8	8.51	7.3	172		

Table 3 (continued)
Cape Fear River Physical Data (surface, mid, bottom) and Coliform (surface only, 5 samples in 30 days)

Station	Date mm/ddmyy	Depth s/m/b	Time hrs	Temp (°C)	DO (mg/L)	pH (su)	Cond umhos/cm	Fecal Coliform #/100 ml	Geometric Mean Fecal #/100 for Site
Cape Fear River	11/06/07	surface	1000	15.1	7.43	6.9	108	43 (B1)	
Site: CPF4	11/06/07	mid	1000	15.0	7.45	6.8	108		
	11/06/07	bottom	1000	15.0	7.58	6.8	108		
	11/14/07	surface	1005	12.5	8.51	6.9	135	20	
	11/14/07	mid	1005	11.9	8.14	6.8	138		
	11/14/07	bottom	1005	11.9	8.17	6.6	137		
	11/19/07	surface	0955	12.0	8.79	8.1	160	61	
	11/19/07	mid	0955	11.8	8.40	7.9	159		
	11/19/07	bottom	0955	11.8	8.40	7.7	159		
	11/28/07	surface	1020	12.1	8.06	7.3	167	10	
	11/28/07	mid	1020	12.0	8.04	7.2	167		
	11/28/07	bottom	1020	12.1	7.90	7.1	167		
	12/04/07	surface	1000	11.0	8.49	7.8	171	12	
	12/04/07	mid	1000	11.0	8.50	7.9	171		
	12/04/07	bottom	1000	11.0	8.61	7.8	171		22.89
Cape Fear River	11/07/07	surface	1050	14.3	8.60	6.3	118	11	
Site: CPF5	11/07/07	mid	1050	14.3	8.64	6.3	117		
	11/07/07	bottom	1050	14.3	8.69	6.0	118		
	11/20/07	surface	1055	12.1	9.43	7.1	174	7	
	11/20/07	mid	1055	12.1	9.42	7.0	175		
	11/20/07	bottom	1055	12.1	9.40	6.9	175		
	11/26/07	surface	1010	11.9	9.72	7.6	178	5	
	11/26/07	mid	1010	11.8	9.68	7.6	180		
	11/26/07	bottom	1010	11.8	9.82	7.6	180		
	11/29/07	surface	1015	11.9	9.65	7.8	172	9	
	11/29/07	mid	1015	11.9	9.65	7.6	172		
	11/29/07	bottom	1015	11.9	9.70	7.6	172		
	11/30/07	surface	0915	11.6	9.81	7.1	173	2	
	11/30/07	mid	0915	11.6	9.82	7.1	173		
	11/30/07	bottom	0915	11.6	9.89	6.9	173		
	12/03/07	surface	1000	11.4	9.57	7.7	176	*	
	12/03/07	mid	1000	11.3	9.56	7.6	176		
	12/03/07	bottom	1000	11.3	9.55	4.4	175		5.66
Cape Fear River	11/07/07	surface	1035	14.4	8.80	6.3	122	18	
Site: CPF6	11/07/07	mid	1035	14.4	8.73	6.4	122		
	11/07/07	bottom	1035	14.4	8.70	6.1	122		
	11/20/07	surface	1030	12.4	9.51	7.1	172	4	
	11/20/07	mid	1030	12.4	9.39	6.9	172		
	11/20/07	bottom	1030	12.4	9.50	6.9	172		
	11/26/07	surface	1030	11.9	9.64	7.5	180	9	
	11/26/07	mid	1030	11.9	9.65	7.4	180		
	11/26/07	bottom	1030	11.9	9.65	7.3	180		
	11/29/07	surface	1035	12.1	9.52	7.6	173	8	
	11/29/07	mid	1035	12.0	9.51	7.3	173		
	11/29/07	bottom	1035	12.0	9.61	7.3	173		
	11/30/07	surface	0936	11.7	9.80	7.3	173	7	
	11/30/07	mid	0936	11.7	9.83	7.2	173		
	11/30/07	bottom	0936	11.7	9.84	7.1	173		
	12/03/07	surface	1030	11.4	9.57	7.6	174	*	
	12/03/07	mid	1030	11.3	9.56	7.4	175		
	12/03/07	bottom	1030	11.3	9.56	7.3	175		8.16

Table 3 (continued)
Cape Fear River Physical Data (surface, mid, bottom) and Coliform (surface only, 5 samples in 30 days)

Station	Date mm/ddmyy	Depth s/m/b	Time hrs	Temp (°C)	DO (mg/L)	pH (su)	Cond umhos/cm	Fecal Coliform #/100 ml	Geometric Mean Fecal #/100 for Site
	11/07/07	surface	1015	14.6	8.81	6.3	122	33	
	11/07/07	mid	1015	14.6	8.63	6.3	122		
	11/07/07	bottom	1015	14.6	8.60	6.1	122		
	11/20/07	surface	1005	12.2	9.38	7.3	168	8	
	11/20/07	mid	1005	12.2	9.40	7.1	169		
	11/20/07	bottom	1005	12.2	9.51	6.9	168		
	11/26/07	surface	1055	12.0	9.36	7.4	180	10	
	11/26/07	mid	1055	11.9	9.46	7.2	180		
	11/26/07	bottom	1055	11.9	9.43	7.2	180		
	11/29/07	surface	1055	12.2	9.51	7.5	173	1	
	11/29/07	mid	1055	12.3	9.52	7.3	173		
	11/29/07	bottom	1055	12.3	9.50	7.3	173		
	11/30/07	surface	0950	11.7	9.65	7.3	173	20	
	11/30/07	mid	0950	11.7	9.66	7.2	173		
	11/30/07	bottom	0950	11.7	9.70	7.1	173		
	12/03/07	surface	1105	11.6	9.51	7.4	175	*	
	12/03/07	mid	1105	11.4	9.54	7.3	176		
	12/03/07	bottom	1105	11.4	9.54	7.2	176		8.8

Qualifier Codes:
B1 - Countable membranes with <20 colonies; Estimated
B4 - Filters have counts of both <60 or 80 and <20; Estimated
* - No sample needed

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Table 4

Location: CAPE FEAR RIV AT SR 1316 AT TAR HEEL
Station #: B8305000
Latitude: 34.74477 **Longitude:** -78.78563
Agency: NCAMBNT
Subbasin: CPF16
Stream class: C
NC stream index: 18-(26)

Time period: 01/15/2002 to 12/06/2006

	# result	# ND	EL	Results not meeting EL #	%	%Conf	Percentiles Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	49	0	<4	1	2		3	5.1	5.9	7.7	10	10.9	14.9
	49	0	<5	4	8.2		3	5.1	5.9	7.7	10	10.9	14.9
pH (SU)	48	0	<6	2	4.2		5.4	6.2	6.3	6.7	6.9	7.1	7.3
	48	0	>9	0	0		5.4	6.2	6.3	6.7	6.9	7.1	7.3
Spec. conductance (umhos/cm at 25°C)	49	0	N/A				53	79	98	118	150	181	289
Water Temperature (°C)	49	0	>32	0	0		5.9	7.9	11.2	18.1	24.7	27.7	29.6
Other													
TSS (mg/L)	16	0	N/A				7	7.7	9	14	20.8	27.6	29
Turbidity (NTU)	48	0	>50	3	6.2		1.9	8.1	9.9	16	22.8	36.9	90
Metals (ug/L)													
Aluminum, total (Al)	17	0	N/A				230	318	360	570	660	2080	2400
Arsenic, total (As)	17	17	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	17	17	>2	0	0		2	2	2	2	2	2	2
Chromium, total (Cr)	17	17	>50	0	0		25	25	25	25	25	25	25
Copper, total (Cu)	17	2	>7	2	11.8	76.2	2	2	2	3	4	8	9
Iron, total (Fe)	17	0	>1000	5	29.4	99.5	370	482	670	840	1100	2400	2400
Lead, total (Pb)	17	17	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	17	17	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	17	17	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	17	11	>50	0	0		10	10	10	10	13	17	20

Fecal coliform (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
45	82	8	18	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries
NCDENR, Division of Water Quality
Basinwide Assessment Report

Table 4(continued)

Location: CAPE FEAR RIV AT SR 1316 AT TAR HEEL
Station #: B8305000
Latitude: 34.74477 **Longitude:** -78.78563
Agency: MCFRBA
Subbasin: CPF16
Stream class: C
NC stream index: 18-(26)

Time period: 01/31/2002 to 12/12/2006

	# result	# ND	EL	Results not meeting EL #	%	%Conf	Percentiles Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	84	0	<4	1	1.2		2.9	5.8	6.4	7.5	8.8	10.8	13.1
	84	0	<5	4	4.8		2.9	5.8	6.4	7.5	8.8	10.8	13.1
pH (SU)	84	0	<6	2	2.4		5.6	6.3	6.5	6.8	7	7.2	7.9
	84	0	>9	0	0		5.6	6.3	6.5	6.8	7	7.2	7.9
Spec. conductance (umhos/cm at 25°C)	84	1	N/A				57	90	106	124	158	194	371
Water Temperature (°C)	84	0	>32	0	0		3	7.6	15.3	23.3	27	29.1	30.6
Other													
Chlorophyll a (ug/L)	35	6	>40	0	0		1	1	2	3	4	8	17
TSS (mg/L)	59	8	N/A				4	5.3	7.3	12	16	28.3	98
Turbidity (NTU)	59	0	>50	2	3.4		4	6	7.5	10	16	30	130
Nutrients (mg/L)													
NH3 as N	59	4	N/A				0.02	0.03	0.05	0.06	0.09	0.17	0.33
NO2 + NO3 as N	57	0	N/A				0.36	0.51	0.71	0.93	1.12	1.4	3.44
TKN as N	59	3	N/A				0.1	0.4	0.5	0.6	0.8	0.9	3.1
Total Phosphorus	59	1	N/A				0.01	0.11	0.13	0.16	0.26	0.34	0.93

Fecal coliform (#/100mL)

# results:	Geomean	# > 400:	% > 400:	%Conf:
58	47	5	9	

Key:
result: number of observations
ND: number of observations reported to be below detection level (non-detect)
EL: Evaluation Level; applicable numeric or narrative water quality standard or action level
Results not meeting EL: number and percentages of observations not meeting evaluation level
%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Table 5
Cape Fear River Water Samples - Nutrients, Metals, MBAS, Sulfate, Hardness, Fluoride and Chloride

Station	Date mm/dd/yy	Time hrs.	NH3 mg/L	TKN mg/L	NOX mg/L	Nitrate mg/L	P Total mg/L	Ni ug/L	Ca mg/L	Mg mg/L	MBAS mg/L	Sulfate mg/L	Hardness mg/L	Fluoride mg/L	Chloride mg/L
Cape Fear River Site: CPF1	12/04/07	1135	0.04	0.50 (J2)	1.5	1.5	0.23	10 (U)	6.3	2.8	0.1 (U)	19	27.61	0.4 (U)	20
Cape Fear River Site: CPF2	12/04/07	1100	0.03	0.42 (J2)	1.2	1.2	0.19	10 (U)	6.5	2.8	0.1	18	27.77	0.4 (U)	19
Cape Fear River Site: CPF3	12/04/07	1035	0.03	0.47 (J2)	1.3	1.3	0.20	10 (U)	6.3	2.7	0.1	18	26.85	0.4 (U)	20
Cape Fear River Site: CPF4	12/04/07	1000	0.04	0.53	1.2	1.2	0.20	10 (U)	6.3	2.8	0.1	18	26.61	0.4 (U)	20
Cape Fear River Site: CPF5	12/03/07	1000	0.06	0.49	1.3	1.3	0.19	10 (U)	6.2	2.8	0.1 (U)	20	27.01	0.4	19
Cape Fear River Site: CPF6	12/03/07	1030	0.05	0.36	1.3	1.3	0.17	10 (U)	6.1	2.7	0.1 (U)	20	26.35	0.4	19
Cape Fear River Site: CPF7	12/03/07	1105	0.05	0.42	1.3	1.3	0.17	10 (U)	6.2	2.8	0.1 (U)	20	27.01	0.4	19
WS-IV & C Standards			-	-	-	10 mg/L		25 ug/L	-	-	0.5 mg/ L	250 mg/L	100 mg/L	1.8 mg/L	250 m/L

Qualifier Codes:
(U) - Samples analyzed for this compound but not detected
(J2) - Reported value failed to meet QC criteria for either precision or accuracy; Estimated

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A-52

Table 6
Cape Fear River Water Samples
Pesticides, Herbicides and Semivolatile Organics, Volatile Organics (VOAs)

Pesticides and Organics	Cape Fear River - CPF1 12/04/07 1135 mm/dd/yy	Cape Fear River - CPF2 12/04/07 1100 mm/dd/yy	Cape Fear River - CPF3 12/04/07 1100 mm/dd/yy
Chlorinated Pesticides	all 51 target compounds (U) not detected 3 unidentified peaks detected	all 51 target compounds (U) not detected 3 unidentified peaks detected	all 51 target compounds (U) not detected 3 unidentified peaks detected
Acid Herbicides	all 15 target compounds (U) not detected <10 unidentified peaks detected	all 15 target compounds (U) not detected <10 unidentified peaks detected	all 15 target compounds (U) not detected <10 unidentified peaks detected
Semivolatile Organics (BNAs)	all 66 target compounds (U) not detected 0 unidentified peaks detected	all 66 target compounds (U) not detected 0 unidentified peaks detected	all 66 target compounds (U) not detected 0 unidentified peaks detected
Volatile Organics (VOAs)	58 target compounds (U) not detected Identified peaks: Chloroform 0.79 ug/L Bromodichloromethane 0.46 ug/L sample not analyzed for this compound: Chloroethyl vinyl ether	58 target compounds (U) not detected Identified peaks: Chloroform 0.57 ug/L Bromodichloromethane 0.33 ug/L sample not analyzed for this compound: Chloroethyl vinyl ether	58 target compounds (U) not detected Identified peaks: Chloroform 0.57 ug/L Bromodichloromethane 0.34 ug/L sample not analyzed for this compound: Chloroethyl vinyl ether

Table 6 (continued)
Cape Fear River Water Samples
Pesticides, Herbicides and Semivolatile Organics, Volatile Organics (VOAs)

Pesticides and Organics	Cape Fear River - CPF4 12/04/07 1000 mm/dd/yy	Cape Fear River - CPF5 12/03/07 1100 mm/dd/yy	Cape Fear River - CPF6 12/03/07 1030 mm/dd/yy
Chlorinated Pesticides	all 51 target compounds (U) not detected 9 unidentified peaks detected	all 51 target compounds (U) not detected 3 unidentified peaks detected	all 51 target compounds (U) not detected 1 unidentified peaks detected
Acid Herbicides	all 15 target compounds (U) not detected <10 unidentified peaks detected	all 15 target compounds (U) not detected 5 unidentified peaks detected	all 15 target compounds (U) not detected <10 unidentified peaks detected
Semivolatile Organics (BNAs)	all 66 target compounds (U) not detected 0 unidentified peaks detected	all 66 target compounds (U) not detected 0 unidentified peaks detected	all 66 target compounds (U) not detected 0 unidentified peaks detected
Volatile Organics (VOAs)	59 target compounds (U) not detected Identified peaks: Chloroform 0.59 ug/L sample not analyzed for this compound: Chloroethyl vinyl ether	57 target compounds (U) not detected Identified peaks: Chloroform 0.85 ug/L Bromodichloromethane 0.60 ug/L 1,2,4-Trimethylbenzene 0.36 ug/L sample not analyzed for this compound: Chloroethyl vinyl ether	55 target compounds (U) not detected Identified peaks: Chloroform 0.91 ug/L Bromodichloromethane 0.58 ug/L Toluene (N3) 0.12 ug/L m,p-Xylene (N3) 0.41 ug/L 1,2,4-Trimethylbenzene 0.37 ug/L sample not analyzed for this compound: Chloroethyl vinyl ether

A-14

Qualifier Codes:
(U) - Samples analyzed for this compound but not detected
(N1) - The component has been tentatively identified based on mass spectral library search and has an estimated value
(N3) - Estimated concentration is <PQL and >MDL

Table 6 (continued on the following page)

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Table 6 (continued)
Cape Fear River Water Samples
Pesticides, Herbicides and Semivolatile Organics, Volatile Organics (VOAs)

Pesticides and Organics	Cape Fear River - CPF7 12/03/07 1115 mm/dd/yy
Chlorinated Pesticides	all 51 target compounds (U) not detected <3 unidentified peaks detected
Acid Herbicides	all 15 target compounds (U) not detected <10 unidentified peaks detected
Semivolatile Organics (BNAs)	all 66 target compounds (U) not detected 0 unidentified peaks detected
Volatile Organics (VOAs)	55 target compounds (U) not detected identified peaks: Chloroform 1.0 ug/L Bromodichloromethane 0.61 ug/L Toluene (N3) 0.14 ug/L m,p-Xylene (N3) 0.42 ug/L 1,2,4-Trimethylbenzene 0.39 ug/L sample not analyzed for this compound: Chloroethyl vinyl ether

Qualifier Codes:
(U) - Samples analyzed for this compound but not detected
(N1) - The component has been tentatively identified based on mass spectral library search and has an estimated value
(N3) - Estimated concentration is <PQL and >MDL

A-15

A-16

North Carolina
Division of Environmental Health

Division of Environmental Health
Terry L. Pierce, Director

Public Water Supply Section
Jessica G. Miles, Section Chief

State of North Carolina
Michael F. Easley, Governor

Department of Environment and Natural Resources
William G. Ross, Secretary

February 8, 2008

Elizabeth Kountis
Classification and Standards Unit
Division of Water Quality-Planning Section

RE: Application to Request Reclassification of a Portion of the Cape Fear River

Dear Ms. Kountis:

The Public Water Supply Section has reviewed the application to request reclassification of a portion of the Cape Fear River which was submitted by Hobbs, Upchurch & Associates on behalf of the Lower Cape Fear Water and Sewer Authority and based on field investigation and review of sampling data finds no reason to object to this reclassification.

The only issue of concern raised during this investigation was the level of an unregulated but potentially emerging contaminant, perfluorooctanoic acid (PFOA or C-8), in the Cape Fear River at the outfall location of the permitted discharge by Dupont approximately five miles upstream of the proposed intake. Sampling data provided by DWQ and the Lower Cape Fear Water & Sewer Authority indicates that there is no significant increase in PFOA caused by this discharge. Current levels of PFOA are below any known health based site specific or ground water proposed standard. Furthermore, it is noted that PFOA monitoring is now a condition of the NPDES permit for the Dupont facility. In the event that PFOA is ultimately regulated, this monitoring data will be important to DWQ in modifying the discharge permit. In addition, as a part of the PFOA Stewardship Program with EPA, Dupont is on a voluntary schedule to reduce PFOA from emissions and product content by 95 percent no later than 2010, and to work toward eliminating PFOA from emissions and product content by 2015. Therefore, we can only conclude that the PFOA should not prevent the reclassification of this stream.

Please feel free to contact Debra Benoy at 910-796-7441 or me at 919-715-3232 if you have questions.

Sincerely,

Jessica G. Miles, P.E., CPM

cc: Debra Benoy
Wayne Munden

1634 Mail Service Center, Raleigh, North Carolina 27699-1634
Telephone 919-733-2321 ▲ Fax 919-715-4374 ▲ Lab Form Fax 919-715-6637
http://ncdrinkingwater.state.nc.us/

15A NCAC 02B .0104 CONSIDERATIONS/ASSIGNING/IMPLEMENTING WATER SUPPLY CLASSIFICATIONS

(a) In determining the suitability of waters for use as a source of water supply for drinking, culinary or food processing purposes after approved treatment, the Commission will be guided by the physical, chemical, and bacteriological maximum contaminant levels specified by Environmental Protection Agency regulations adopted pursuant to the Public Health Service Act, 42 U.S.C. 201 et seq., as amended by the Safe Drinking Water Act, 42 U.S.C. 300(f) et seq. In addition, the Commission shall be guided by the requirements for unfiltered and filtered water supplies and the maximum contaminant levels specified in the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1100, .1200 and .1500 and comments provided by the Division of Environmental Health.

(b) All local governments that have land use authority within designated water supply watersheds shall adopt and enforce ordinances that at a minimum meet the requirements of G.S. 143-214.5 and this Subchapter. The Commission shall approve local water supply protection programs if it determines that the requirements of the local program equal or exceed the minimum statewide water supply watershed management requirements adopted pursuant to this Section. Local governments may adopt and enforce more stringent controls. Local management programs and modifications to these programs must be approved by the Commission and shall be kept on file by the Division of Environmental Management, Division of Environmental Health and the Division of Community Assistance.

(c) All waters used for water supply purposes or intended for future water supply use shall be classified to the most appropriate water supply classification as determined by the Commission. Water supplies may be reclassified to a more or less protective water supply classification on a case-by-case basis through the rule-making process. A more protective water supply classification may be applied to existing water supply watersheds after receipt of a resolution from all local governments having land use jurisdiction within the designated water supply watershed requesting a more protective water supply classification. Local government(s) requesting the Future Water Supply classification must provide to the Division evidence of intent which may include one or a combination of the following: capital improvement plans, a Water Supply Plan as described in G.S. 143-355(l), bond issuance for the water treatment plant or land acquisition records. A 1:24,000 scale USGS topographical map delineating the location of the intended water supply intake is also required. Requirements for activities administered by the State of North Carolina, such as the issuance of permits for landfills, NPDES wastewater discharges, land application of residuals and road construction activities shall be effective upon reclassification for future water supply use. The requirements shall apply to the critical area and balance of the watershed or protected area as appropriate. Upon receipt of the final approval letter from the Division of Environmental Health for construction of the water treatment plant and water supply intake, the Commission shall initiate rule-making to modify the Future Water Supply supplemental classification. Local government implementation is not required until 270 days after the Commission has modified the Future Water Supply (FWS) supplemental classification through the rule-making process and notified the affected local government(s) that the appropriate local government land use requirements applicable for the water supply classifications are to be adopted, implemented and submitted to the Commission for approval. Local governments may also adopt land use ordinances that meet or exceed the state's minimum requirements for water supply watershed protection prior to the end of the 270 day deadline. The requirements for FWS may also be applied to waters formerly used for drinking water supply purposes, and currently classified for water supply use, at the request of local government(s) desiring protection of the watershed for future water supply use.

(d) In considering the reclassification of waters for water supply purposes, the Commission shall take into consideration the relative proximity, quantity, composition, natural dilution and diminution of potential sources of pollution to determine that risks posed by all significant pollutants are adequately considered.

(e) For the purposes of implementing the water supply watershed protection rules (15A NCAC 2B .0100, .0200 and .0300) and the requirements of G.S. 143-214.5, the following schedule of implementation shall be applicable:

August 3, 1992 - Activities administered by the State of North Carolina, such as the issuance of permits for landfills, NPDES wastewater discharges, and land application of sludge/residuals, and road construction activities, shall become effective regardless of the deadlines for municipal and county water supply watershed protection ordinance adoptions;

By July 1, 1993 - Affected municipalities with a population greater than 5,000 shall adopt and submit the appropriate drinking water supply protection, maps and ordinances that meet or exceed the minimum management requirements of these Rules;

By October 1, 1993 -Affected municipalities with a population less than 5,000 shall adopt and submit the appropriate drinking water supply protection, maps and ordinances that meet or exceed the minimum management requirements of these Rules;

By January 1, 1994 -Affected county governments shall adopt and submit the appropriate drinking water supply protection, maps and ordinances that meet or exceed the minimum management requirements of these Rules.

Affected local government drinking water supply protection ordinances shall become effective on or before these dates. Local governments may choose to adopt, implement and enforce these provisions prior to this date. Three copies of the adopted and effective relevant ordinances shall be sent to the Division along with a cover letter from the municipal or county attorney, or its designated legal counsel, stating that the local government drinking water supply protection ordinances shall meet or exceed the rules in 15A NCAC 2B .0100, .0200 and .0300. If the rules in 15A NCAC 2B .0100, .0200 and .0300 are revised, the Division shall modify and distribute to local governments, as appropriate, a revised model ordinance. The Division shall approve the amended local maps and ordinances, or request the Commission to take appropriate action under G.S. 143-214.5.

(f) Wherever in this Subchapter it is provided that local governments assume responsibility for operation and maintenance of engineered stormwater control(s), this shall be construed to require responsible local governments to inspect such controls at least once per year, to determine whether the controls are performing as designed and intended. Records of inspections shall be maintained on forms supplied by the Division. Local governments may require payment of reasonable inspection fees by entities which own the controls, as authorized by law. In the event inspection shows that a control is not performing adequately, the local government shall order the owning entity to take corrective actions. If the entity fails to take sufficient corrective actions, the local government may impose civil penalties and pursue other available remedies in accordance with the law. The availability of new engineered stormwater controls as an alternative to lower development density and other measures under the provisions of this Subchapter and local ordinances approved by the Commission shall be conditioned on the posting of adequate financial assurance, in the form of a cash deposit or bond made payable to the responsible local government, or other acceptable security. The establishment of a stormwater utility by the responsible local government shall be deemed adequate financial assurance. The purpose of the required financial assurance is to assure that maintenance, repairs or reconstruction necessary for adequate performance of the controls may be made by the owning entity or the local government which may choose to assume ownership and maintenance responsibility.

(g) Where higher density developments are allowed, stormwater control systems must use wet detention ponds as described in 15A NCAC 2H .1003(g)(2), (g)(3), (i), (j), (k), and (l). Alternative stormwater management systems consisting of other treatment options, or a combination of treatment options, may be approved by the Director. The design criteria for approval shall be 85 percent average annual removal of Total Suspended Solids. Also the discharge rate shall meet one of the following criteria:

(1) the discharge rate following the 1-inch design storm shall be such that the runoff draws down to the pre-storm design stage within five days, but not less than two days; or

(2) the post development peak discharge rate shall equal the predevelopment rate for the 1-year, 24 hour storm.

(h) Where no practicable alternative exists, discharge from groundwater remediation projects addressing water quality problems shall be allowed in accordance with other applicable requirements in all water supply classifications.

(i) To further the cooperative nature of the water supply watershed management and protection program provided for herein, local governments with jurisdiction over portions of classified watersheds and local governments which derive their water supply from within such watersheds are encouraged to establish joint water quality monitoring and information sharing programs, by interlocal agreement or otherwise. Such cooperative programs shall be established in consultation with the Division.

(j) Where no practicable alternative exists other than surface water discharge, previously unknown existing unpermitted wastewater discharges shall incorporate the best possible technology treatment as deemed appropriate by the Division.

(k) The Commission may designate water supply watersheds or portions thereof as critical water supply watersheds pursuant to G.S. 143-214.5(b).

(l) A more protective classification may be allowed by the Commission although minor occurrences of nonconforming activities are present prior to reclassification. When the Commission allows a more protective classification, expansions of existing wastewater discharges that otherwise would have been prohibited may be allowed if there is no increase in permitted pollutant loading; other discharges of treated wastewater existing at the time of reclassification may be required to meet more stringent effluent limitations as determined by the Division. Consideration of all practicable alternatives to surface water discharge must be documented.

(m) The construction of new roads and bridges and non-residential development shall minimize built-upon area, divert stormwater away from surface water supply waters as much as possible, and employ best management practices (BMPs) to minimize water quality impacts. To the extent practicable, the construction of new roads in the critical area shall be avoided. The Department of Transportation shall use BMPs as outlined in their document entitled "Best Management Practices for the Protection of Surface Waters" which is hereby incorporated by reference including all subsequent amendments and editions. This material is available for inspection at the Department of Environment, Health, and Natural Resources, Division of Environmental Management, Water Quality Planning Branch, 512 North Salisbury Street, Raleigh, North Carolina.

(n) Activities within water supply watersheds are also governed by the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1100, .1200 and .1500. Proposed expansions of treated wastewater discharges to water supply waters must be approved by the Division of Environmental Health.

(o) Local governments shall correctly delineate the approximate normal pool elevation for backwaters of water supply reservoirs for the purposes of determining the critical and protected area boundaries as appropriate. Local governments must submit to the Division a 1:24,000 scale U.S.G.S. topographic map which shows the local government's corporate and extraterritorial jurisdiction boundaries, the Commission's adopted critical and protected area boundaries, as well as the local government's interpreted critical and protected area boundaries. All revisions (expansions or deletions) to these areas must be submitted to the Division and approved by the Commission prior to local government revision.

(p) Local governments shall encourage participation in the Agricultural Cost Share Program. The Soil and Water Conservation Commission is the designated management agency responsible for implementing the provisions of the rules in 15A NCAC 2H .0200 pertaining to agricultural activities. Agricultural activities are subject to the provisions of the Food Security Act of 1985 and the Food, Agriculture, Conservation and Trade Act of 1990 (Public Law 101-624) and 15A NCAC 2H .0217). The following shall be required within WS-I watersheds and the critical areas of WS-II, WS-III and WS-IV watersheds:

(1) Agricultural activities conducted after January 1, 1993 shall maintain a minimum 10 foot vegetated buffer, or equivalent control as determined by the Soil and Water Conservation Commission, along all perennial waters indicated on the most recent versions of U.S.G.S. 1:24,000 (7.5 minute) scale topographic maps or as determined by local government studies; and

(2) Animal operation deemed permitted and permitted under 15A NCAC 2H .0217 are allowed in all classified water supply watersheds.

(q) Existing development is not subject to the requirements of these Rules. Redevelopment is allowed if the rebuilding activity does not have a net increase in built-upon area or provides equal or greater stormwater control than the previous development, except that there are no restrictions on single family residential redevelopment. Expansions to structures classified as existing development must meet the requirements of the rules in 15A NCAC 2B .0100, .0200 and .0300; however, the built-upon area of the existing development is not required to be included in the density calculations. Expansions to structures other than existing development must meet the density requirements of these Rules for the entire project site. If a nonconforming lot of record is not contiguous to any other lot owned by the same party, then that lot of record shall not be subject to the development restrictions of these Rules if it is developed for single-family residential purposes. Local governments may, however, require the combination of contiguous nonconforming lots of record owned by the same party in order to establish a lot or lots that meet or nearly meet the development restrictions of the rules under 15A NCAC 2B. Any lot or parcel created as part of a family subdivision after the effective date of these Rules shall be exempt from these Rules if it is developed for one single-family detached residence and if it is exempt from local subdivision regulation. Any lot or parcel created as part of any other type of subdivision that is exempt from a local

subdivision ordinance shall be subject to the land use requirements (including impervious surface requirements) of these Rules, except that such a lot or parcel must meet the minimum buffer requirements to the maximum extent practicable. Local governments may also apply more stringent controls relating to determining existing development, redevelopment or expansions.

(r) Development activities may be granted minor variances by local governments utilizing the procedures of G.S. 153A Article 18, or G.S. 160A, Article 19. A description of each project receiving a variance and the reason for granting the variance shall be submitted to the Commission on an annual basis by January 1. For all proposed major and minor variances from the minimum statewide watershed protection rules, the local Watershed Review Board shall make findings of fact showing that:

(1) there are practical difficulties or unnecessary hardships that prevent compliance with the strict letter of the ordinance;

(2) the variance is in harmony with the general purpose and intent of the local watershed protection ordinance and preserves its spirit; and

(3) in granting the variance, the public safety and welfare have been assured and substantial justice has been done.

The local Watershed Review Board may attach conditions to the major or minor variance approval that support the purpose of the local watershed protection ordinance. If the variance request qualifies as a major variance, and the local Watershed Review Board decides in favor of granting the major variance, the Board shall then prepare a preliminary record of the hearing and submit it to the Commission for review and approval. If the Commission approves the major variance or approves with conditions or stipulations added, then the Commission shall prepare a Commission decision which authorizes the local Watershed Review Board to issue a final decision which would include any conditions or stipulations added by the Commission. If the Commission denies the major variance, then the Commission shall prepare a Commission decision to be sent to the local Watershed Review Board. The local Watershed Review Board shall prepare a final decision denying the major variance. For all proposed major and minor variances the local government considering or requesting the variance shall notify and allow a reasonable comment period for all other local governments having jurisdiction within the watershed area governed by these Rules and the entity using the water supply for consumption. Appeals from the local government decision on a major or minor variance request are made on certiorari to the local Superior Court. Appeals from the Commission decision on a major variance request are made on judicial review to Superior Court. When local ordinances are more stringent than the state's minimum water supply protection rules a variance to the local government's ordinance is not considered a major variance as long as the result of the variance is not less stringent than the state's minimum requirements.

(s) Cluster development is allowed on a project-by-project basis as follows:

(1) Overall density of the project meets associated density or stormwater control requirements under 15A NCAC 2B .0200;

(2) Buffers meet the minimum statewide water supply watershed protection requirements;

(3) Built-upon areas are designed and located to minimize stormwater runoff impact to the receiving waters, minimize concentrated stormwater flow, maximize the use of sheet flow through vegetated areas, and maximize the flow length through vegetated areas;

(4) Areas of concentrated density development are located in upland areas and away, to the maximum extent practicable, from surface waters and drainageways; ,

(5) Remainder of tract to remain in vegetated or natural state;

(6) The area in the vegetated or natural state may be conveyed to a property owners association; a local government for preservation as a park or greenway; a conservation organization; or placed in a permanent conservation or farmland preservation easement. A maintenance agreement shall be filed with the property deeds; and

(7) Cluster developments that meet the applicable low density requirements shall transport stormwater runoff by vegetated conveyances to the maximum extent practicable.

(t) Local governments may administer oversight of future development activities in single family residential developments that exceed the applicable low density requirements by tracking dwelling units rather than percentage built-upon area, as long as the wet detention pond or other approved stormwater control system is sized to capture and treat runoff from all pervious and built-upon surfaces shown on the development plan and any off-site drainage from pervious and built-upon surfaces, and when an additional safety factor of 15 percent of built-upon area of the project site is figured in.

(u) All new development shall meet the development requirements on a project-by-project basis except local governments may submit ordinances and ordinance revisions which use density or built-upon area criteria averaged throughout the local government's watershed jurisdiction instead of on a project-by-project basis within the watershed. Prior to approval of the ordinance or amendment, the local government must demonstrate to the Commission that the provisions as averaged meet or exceed the statewide minimum requirements, and that a mechanism exists to ensure the orderly and planned distribution of development potential throughout the watershed jurisdiction.

(v) Silviculture activities are subject to the provisions of the Forest Practices Guidelines Related to Water Quality (15A NCAC 1I .0101 - .0209). The Division of Forest Resources is the designated management agency responsible for implementing the provisions of the rules in 15A NCAC 2B .0200 pertaining to silviculture activities.

(w) Local governments shall, as the existing laws allow, develop, implement, and enforce comprehensive nonpoint source and stormwater discharge control programs to reduce water pollution from activities within water supply watersheds such as development, forestry, landfills, mining, on-site sanitary sewage systems which utilize ground adsorption, toxic and hazardous materials, transportation, and water based recreation.

(x) When the Commission assumes a local water supply protection program as specified under G.S. 143-214.5(e) all local permits authorizing construction and development activities as regulated by the statewide minimum water supply watershed protection rules of this Subchapter must be approved by the Commission prior to local government issuance.

(y) In the event that stormwater management systems or facilities may impact existing waters or wetlands of the United States, the Clean Water Act requires that these systems or facilities be consistent with all federal and state requirements.

(z) A model local water supply watershed management and protection ordinance, as approved by the Commission in accordance with G.S. 143-214.5, is on file with the Office of Administrative Hearings and may be obtained by writing to: Water Quality Planning Branch, Division of Environmental Management, Post Office Box 29535, Raleigh, North Carolina 27626-0535.

(aa) The Commission may delegate such matters as variance approval, extension of deadlines for submission of corrected ordinances and assessment of civil penalties to the Director.

History Note: *Authority G.S. 143-214.1; 143-215.3(a)(1);*
Eff. February 1, 1976;
Amended Eff. August 1, 1995; August 3, 1992; March 1, 1991; October 1, 1989.

15A NCAC 02B .0216 FRESH SURFACE WATER QUALITY STANDARDS FOR WS-IV WATERS

The following water quality standards apply to surface water supply waters that are classified WS-IV. Water quality standards applicable to Class C waters as described in Rule .0211 of this Section also apply to Class WS-IV waters.

(1) The best usage of WS-IV waters are as follows: a source of water supply for drinking, culinary, or food-processing purposes for those users where a more protective WS-I, WS-II or WS-III classification is not feasible and any other best usage specified for Class C waters;

(2) The conditions related to the best usage are as follows: waters of this class are protected as water supplies which are generally in moderately to highly developed watersheds or protected areas and meet average watershed development density levels as specified in Sub-Items (3)(b)(i)(A), (3)(b)(i)(B), (3)(b)(ii)(A) and (3)(b)(ii)(B) of this Rule; discharges which qualify for a General Permit pursuant to 15A NCAC 02H .0127, trout farm discharges, recycle (closed loop) systems that only discharge in response to 10-year storm events, other stormwater discharges and domestic wastewater discharges shall be allowed in the protected and critical areas; treated industrial wastewater discharges are allowed in the protected and critical areas; however, new industrial wastewater discharges in the critical area shall be required to meet the provisions of 15A NCAC 02B .0224(1)(b)(iv), (v) and (vii), and 15A NCAC 02B .0203; new industrial connections and expansions to existing municipal discharges with a pretreatment program pursuant to 15A NCAC 02H .0904 are allowed; the waters, following treatment required by the Division of Environmental Health, shall meet the Maximum Contaminant Level concentrations considered safe for drinking, culinary, or food-processing purposes which are specified in the national drinking water regulations and in the North Carolina Rules Governing Public Water Supplies, 15A NCAC 18C .1500. Sources of water pollution which preclude any of these uses on either a short-term or long-term basis shall be considered to be violating a water quality standard. The Class WS-II or WS-III classifications may be used to protect portions of Class WS-IV water supplies. For reclassifications of these portions of WS-IV water supplies occurring after the July 1, 1992 statewide reclassification, the more protective classification requested by local governments shall be considered by the Commission when all local governments having jurisdiction in the affected area(s) have adopted a resolution and the appropriate ordinances to protect the watershed or the Commission acts to protect a watershed when one or more local governments has failed to adopt necessary protection measures;

(3) Quality standards applicable to Class WS-IV Waters are as follows:

(a) Sewage, industrial wastes, non-process industrial wastes, or other wastes: none shall be allowed except for those specified in Item (2) of this Rule and Rule .0104 of this Subchapter and none shall be allowed that shall have an adverse effect on human health or that are not effectively treated to the satisfaction of the Commission and in accordance with the requirements of the Division of Environmental Health, North Carolina Department of Environment and Natural Resources. Any discharges or industrial users subject to pretreatment standards may be required by the Commission to disclose all chemical constituents present or potentially present in their wastes and chemicals which could be spilled or be present in runoff from their facility which may have an adverse impact on downstream water supplies. These facilities may be required to have spill and treatment failure control plans as well as perform special monitoring for toxic substances;

(b) Nonpoint Source and Stormwater Pollution: none shall be allowed that would adversely impact the waters for use as water supply or any other designated use.

(i) Nonpoint Source and Stormwater Pollution Control Criteria For Entire Watershed or Protected Area:

(A) Low Density Option: development activities which require a Sedimentation/Erosion Control Plan in accordance with 15A NCAC 4 established by the North Carolina Sedimentation Control Commission or approved local government programs as delegated by the Sedimentation Control Commission shall be limited to no more than either: two dwelling units of single family detached development per acre (or 20,000 square foot lot excluding roadway right-of-way) or 24 percent built-upon on area for all other residential and non-residential development; or three dwelling units per acre or 36 percent built-upon area for projects without curb and gutter street systems in the protected area outside of the critical area; stormwater runoff from the development shall be transported by vegetated conveyances to the maximum extent practicable;

(B) High Density Option: if new development activities which require a Sedimentation/Erosion Control Plan exceed the low density requirements of Sub-Item (3)(b)(i)(A) of this Rule then development shall control the runoff from the first inch of rainfall; new residential and non-residential development shall not exceed 70 percent built-upon area;

(C) Land within the critical and protected area shall be deemed compliant with the density requirements if the following condition is met: the density of all existing development at the time of reclassification does not exceed the density requirement when densities are averaged throughout the entire area;

(D) Cluster development shall be allowed on a project-by-project basis as follows:
- (I) overall density of the project meets associated density or stormwater control requirements of this Rule;
- (II) buffers meet the minimum statewide water supply watersbed protection requirements;
- (III) built-upon areas are designed and located to minimize stormwater runoff impact to the receiving waters, minimize concentrated stormwater flow, maximize the use of sheet flow through vegetated areas, and maximize the flow length through vegetated areas;
- (IV) areas of concentrated development are located in upland areas and away, to the maximum extent practicable, from surface waters and drainageways;
- (V) remainder of tract to remain in vegetated or natural state;
- (VI) area in the vegetated or natural state may be conveyed to a property owners association, a local government for preservation as a park or greenway, a conservation organization, or placed in a permanent conservation or farmland preservation easement;
- (VII) a maintenance agreement for the vegetated or natural area shall be filed with the Register of Deeds; and
- (VIII) cluster development that meets the applicable low density option requirements shall transport stormwater runoff from the development by vegetated conveyances to the maximum extent practicable;

(E) If local governments choose the high density development option which requires engineered stormwater controls, then they shall assume ultimate responsibility for operation and maintenance of the required controls as outlined in Rule .0104 of this Subchapter;

(F) Minimum 100 foot vegetative buffer is required for all new development activities that exceed the low density option requirements as specified in Sub-Item (3)(b)(i)(A) or Sub-Item (3)(b)(ii)(A) of this Rule, otherwise a minimum 30 foot vegetative buffer for development shall be required along all perennial waters indicated on the most recent versions of U.S.G.S. 1:24,000 (7.5 minute) scale topographic maps or as determined by local government studies;

(G) No new development shall be allowed in the buffer; water dependent structures, or other structures, such as flag poles, signs and security lights, which result in only de minimus increases in impervious area and public projects such as road crossings and greenways may be allowed where no practicable alternative exists. These activities shall minimize built-upon surface area, divert runoff away from surface waters and maximize the utilization of BMPs;

(H) For local governments that do not use the high density option, a maximum of 10 percent of each jurisdiction's portion of the watershed outside of the critical area as delineated on July 1, 1995 may be developed with new development projects and expansions to existing development of up to 70 percent built-upon surface area in addition to the new development approved in compliance with the appropriate requirements of Sub-Item (3)(b)(i)(A) of this Rule. For expansions to existing development, the existing built-upon surface area shall not be counted toward the allowed 70 percent built-upon surface area. A local government having jurisdiction within the watershed may transfer, in whole or

in part, its right to the 10 percent/70 percent land area to another local government within the watershed upon submittal of a joint resolution for review by the Commission. When the designated water supply watershed area is composed of public land, such as National Forest land, local governments may count the public land acreage within the designated watershed area outside of the critical area in figuring the acreage allowed under this provision. Each project shall, to the maximum extent practicable, minimize built-upon surface area, direct stormwater runoff away from surface waters and incorporate best management practices to minimize water quality impacts;

(ii) Critical Area Nonpoint Source and Stormwater Pollution Control Criteria:
- (A) Low Density Option: new development activities which require a Sedimentation/Erosion Control Plan in accordance with 15A NCAC 4 established by the North Carolina Sedimentation Control Commission or approved local government programs as delegated by the Sedimentation Control Commission shall be limited to no more than two dwelling units of single family detached development per acre (or 20,000 square foot lot excluding roadway right-of-way) or 24 percent built-upon area for all other residential and non-residential development; stormwater runoff from the development shall be transported by vegetated conveyances to the maximum extent practicable;
- (B) High Density Option: if new development density exceeds the low density requirements specified in Sub-Item (3)(b)(ii)(A) of this Rule, engineered stormwater controls shall be used to control runoff from the first inch of rainfall; new residential and non-residential development shall not exceed 50 percent built-upon area;
- (C) No new permitted sites for land application of residuals or petroleum contaminated soils shall be allowed;
- (D) No new landfills shall be allowed;

(c) MBAS (Methylene-Blue Active Substances): not greater than 0.5 mg/l to protect the aesthetic qualities of water supplies and to prevent foaming;

(d) Odor producing substances contained in sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances or waste, as will not cause taste and odor difficulties in water supplies which can not be corrected by treatment, impair the palatability of fish, or have a deleterious effect upon any best usage established for waters of this class;

(e) Chlorinated phenolic compounds: not greater than 1.0 ug/l to protect water supplies from taste and odor problems due to chlorinated phenols shall be allowed. Specific phenolic compounds may be given a different limit if it is demonstrated not to cause taste and odor problems and not to be detrimental to other best usage;

(f) Total hardness shall not exceed 100 mg/l as calcium carbonate;

(g) Total dissolved solids shall not exceed 500 mg/l;

(h) Toxic and other deleterious substances:
- (i) Water quality standards (maximum permissible concentrations) to protect human health through water consumption and fish tissue consumption for non-carcinogens in Class WS-IV waters:
  - (A) Barium: 1.0 mg/l;
  - (B) Chloride: 250 mg/l;
  - (C) Manganese: 200 ug/l;
  - (D) Nickel: 25 ug/l;
  - (E) Nitrate nitrogen: 10.0 mg/l;
  - (F) 2,4-D: 100 ug/l;
  - (G) 2,4,5-TP (Silvex): 10 ug/l;
  - (H) Sulfates: 250 mg/l;
- (ii) Water quality standards (maximum permissible concentrations) to protect human health through water consumption and fish tissue consumption for carcinogens in Class WS-IV waters:
  - (A) Aldrin: 0.05 ng/l;

(B) Arsenic: 10 ug/l;
(C) Benzene: 1.19 ug/l;
(D) Carbon tetrachloride: 0.254 ug/l;
(E) Chlordane: 0.8 ng/l;
(F) Chlorinated benzenes: 488 ug/l;
(G) DDT: 0.2 ng/l;
(H) Dieldrin: 0.05 ng/l;
(I) Dioxin: 0.000005 ng/l;
(J) Heptachlor: 0.08 ng/l;
(K) Hexachlorobutadiene: 0.44 ug/l;
(L) Polynuclear aromatic hydrocarbons (total of all PAHs): 2.8 ng/l;
(M) Tetrachloroethane (1,1,2,2): 0.17 ug/l;
(N) Tetrachloroethylene: 0.7 ug/l;
(O) Trichloroethylene: 2.5 ug/l;
(P) Vinyl Chloride: 0.025 ug/l.

History Note: *Authority G.S. 143-214.1; 143-215.3(a)(1);*
Eff. February 1, 1986;
Amended Eff. May 1, 2007; April 1, 2003; June 1, 1996; October 1, 1995; August 1, 1995; June 1, 1994.

15A NCAC 02B .0311 is proposed for amendment as follows:

15A NCAC 02B .0311 CAPE FEAR RIVER BASIN

(a) The Cape Fear River Basin Schedule of Classifications and Water Quality Standards may be inspected at the following places:

(1) the Internet at http://h2o.enr.state.nc.us/csu/; and
(2) the North Carolina Department of Environment and Natural Resources:
(A) Winston-Salem Regional Office
585 Waughtown Street
Winston-Salem, North Carolina
(B) Fayetteville Regional Office
225 Green Street
Systel Building Suite 714
Fayetteville, North Carolina
(C) Raleigh Regional Office
3800 Barrett Drive
Raleigh, North Carolina
(D) Washington Regional Office
943 Washington Square Mall
Washington, North Carolina
(E) Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, North Carolina
(F) Division of Water Quality
Central Office
512 North Salisbury Street
Raleigh, North Carolina.

(b) The Cape Fear River Basin Schedule of Classification and Water Quality Standards was amended effective:

(1) March 1, 1977;
(2) December 13, 1979;
(3) December 14, 1980;
(4) August 9, 1981;
(5) April 1, 1982;
(6) December 1, 1983;
(7) January 1, 1985;
(8) August 1, 1985;

(9) December 1, 1985;
(10) February 1, 1986;
(11) July 1, 1987;
(12) October 1, 1987;
(13) March 1, 1988;
(14) June 1, 1988;
(15) July 1, 1988;
(16) January 1, 1990;
(17) August 1, 1990;
(18) August 3, 1992;
(19) September 1, 1994;
(20) August 1, 1998;
(21) April 1, 1999;
(22) August 1, 2002;
(23) November 1, 2004;
(24) November 1, ~~2007~~ 2007;
(25) May 1, 2009.

(c) The Schedule of Classifications and Water Quality Standards for the Cape Fear River Basin has been amended effective June 1, 1988 as follows:

(1) Cane Creek [Index No. 16-21-(1)] from source to a point 0.5 mile north of N.C. Hwy. 54 (Cane Reservoir Dam) including the Cane Creek Reservoir and all tributaries has been reclassified from Class WS-III to WS-I.

(2) Morgan Creek [Index No. 16-41-1-(1)] to the University Lake dam including University Lake and all tributaries has been reclassified from Class WS-III to WS-I.

(d) The Schedule of Classifications and Water Quality Standards for the Cape Fear River Basin has been amended effective July 1, 1988 by the reclassification of Crane Creek (Crains Creek) [Index No. 18-23-16-(1)] from source to mouth of Beaver Creek including all tributaries from C to WS-III.

(e) The Schedule of Classifications and Water Quality Standards for the Cape Fear River Basin has been amended effective January 1, 1990 as follows:

(1) Intracoastal Waterway (Index No. 18-87) from southern edge of White Oak River Basin to western end of Permuda Island (a line from Morris Landing to Atlantic Ocean), from the eastern mouth of Old Topsail Creek to the southwestern shore of Howe Creek and from the southwest mouth of Shinn Creek to channel marker No. 153 including all tributaries except the King Creek Restricted Area, Hardison Creek, Old Topsail Creek, Mill Creek, Futch Creek and Pages Creek were reclassified from Class SA to Class SA ORW.

(2) Topsail Sound and Middle Sound ORW Area which includes all waters between the Barrier Islands and the Intracoastal Waterway located between a line running from the western most shore of Mason Inlet to the southwestern shore of Howe Creek and a line running from the western shore of New Topsail Inlet to the eastern mouth of Old Topsail Creek was reclassified from Class SA to Class SA ORW.

(3) Masonboro Sound ORW Area which includes all waters between the Barrier Islands and the mainland from a line running from the southwest mouth of Shinn Creek at the Intracoastal Waterway to the southern shore of Masonboro Inlet and a line running from the Intracoastal Waterway Channel marker No. 153 to the southside of the Carolina Beach Inlet was reclassified from Class SA to Class SA ORW.

(f) The Schedule of Classifications and Water Quality Standards for the Cape Fear River Basin has been amended effective January 1, 1990 as follows: Big Alamance Creek [Index No. 16-19-(1)] from source to Lake Mackintosh Dam including all tributaries has been reclassified from Class WS-III NSW to Class WS-II NSW.

(g) The Schedule of Classifications and Water Quality Standards for the Cape Fear River Basin was amended effective August 3, 1992 with the reclassification of all water supply waters (waters with a primary classification of WS-I, WS-II or WS-III). These waters were reclassified to WS-I, WS-II, WS-III, WS-IV or WS-V as defined in the revised water supply protection rules, (15A NCAC 02B .0100, .0200 and .0300) which became effective on August 3, 1992. In some cases, streams with primary classifications other than WS were reclassified to a WS classification due to their proximity and linkage to water supply waters. In other cases, waters were reclassified from a WS classification to an alternate appropriate primary classification after being identified as downstream of a water supply intake or identified as not being used for water supply purposes.

(h) The Schedule of Classifications and Water Quality Standards for the Cape Fear River Basin was amended effective June 1, 1994 as follows:

(1) The Black River from its source to the Cape Fear River [Index Nos. 18-68-(0.5), 18-68-(3.5) and 18-65-(11.5)] was reclassified from Classes C Sw and C Sw HQW to Class C Sw ORW.

(2) The South River from Big Swamp to the Black River [Index Nos. 18-68-12-(0.5) and 18-68-12(11.5)] was reclassified from Classes C Sw and C Sw HQW to Class C Sw ORW.

(3) Six Runs Creek from Quewhiffle Swamp to the Black River [Index No. 18-68-2] was reclassified from Class C Sw to Class C Sw ORW.

(i) The Schedule of Classifications and Water Quality Standards for the Cape Fear River Basin was amended effective September 1, 1994 with the reclassification of the Deep River [Index No. 17-(36.5)] from the Town of Gulf-Goldston water supply intake to US highway 421 including associated tributaries from Class C to Classes C, WS-IV and WS-IV CA.

(j) The Schedule of Classifications and Water Quality Standards for the Cape Fear River Basin was amended effective August 1, 1998 with the revision to the primary classification for portions of the Deep River [Index No. 17-(28.5)] from Class WS-IV to Class WS-V, Deep River [Index No. 17-(41.5)] from Class WS-IV to Class C, and the Cape Fear River [Index 18-(10.5)] from Class WS-IV to Class WS-V.

(k) The Schedule of Classifications and Water Quality Standards for the Cape Fear River Basin was amended effective April 1, 1999 with the reclassification of Buckhorn Creek (Harris Lake)[Index No. 18-7-(3)] from the backwaters of Harris Lake to the Dam at Harris Lake from Class C to Class WS-V.

(l) The Schedule of Classifications and Water Quality Standards for the Cape Fear River Basin was amended effective April 1, 1999 with the reclassification of the Deep River [Index No. 17-(4)] from the dam at Oakdale-Cotton Mills, Inc. to the dam at Randleman Reservoir (located 1.6 mile upstream of U.S. Hwy 220 Business), and including tributaries from Class C and Class B to Class WS-IV and Class WS-IV & B. Streams within the Randleman Reservoir Critical Area have been reclassified to WS-IV CA. The Critical Area for a WS-IV reservoir is defined as 0.5 mile and draining to the normal pool elevation of the reservoir. All waters within the Randleman Reservoir Water Supply Watershed are within a designated Critical Water Supply Watershed and are subject to a special management strategy specified in 15A NCAC 02B .0248.

(m) The Schedule of Classifications and Water Quality Standards for the Cape Fear River Basin was amended effective August 1, 2002 as follows:

(1) Mill Creek [Index Nos. 18-23-11-(1), 18-23-11-(2), 18-23-11-3, 18-23-11-(5)] from its source to the Little River, including all tributaries was reclassified from Class WS-III NSW and Class WS-III B NSW to Class WS-III NSW HQW@ and Class WS-III B NSW HQW@.

(2) McDeed's Creek [Index Nos. 18-23-11-4, 18-23-11-4-1] from its source to Mill Creek, including all tributaries was reclassified from Class WS III NSW and Class WS-III B NSW to Class WS-III NSW HQW@ and Class WS-III B NSW HQW@.

The "@" symbol as used in this Paragraph means that if the governing municipality has deemed that a development is covered under a "5/70 provision" as described in Rule 15A NCAC 02B .0215(3)(b)(i)(E) (Fresh Surface Water Quality Standards for Class WS-III Waters), then that development is not subject to the stormwater requirements as described in rule 15A NCAC 02H .1006 (Stormwater Requirements: High Quality Waters).

(n) The Schedule of Classifications and Water Quality Standards for the Cape Fear River Basin was amended effective November 1, 2004 as follows:

(1) A portion of Rocky River [Index Number 17-43-(1)] from a point approximately 0.3 mile upstream of Town of Siler City upper reservoir dam to a point approximately 0.3 mile downstream of Lacy Creek from WS-III to WS-III CA.

(2) A portion of Rocky River [Index Number 17-43-(8)] from dam at lower water supply reservoir for Town of Siler City to a point approximately 65 feet below dam (site of proposed dam) from C to WS-III CA.

(3) A portion of Mud Lick Creek (Index No. 17-43-6) from a point approximately 0.4 mile upstream of Chatham County SR 1355 to Town of Siler City lower water supply reservoir from WS-III to WS-III CA.

(4) A portion of Lacy Creek (17-43-7) from a point approximately 0.6 mile downstream of Chatham County SR 1362 to Town of Siler City lower water supply reservoir from WS-III to WS-III CA.

(o) The Schedule of Classifications and Water Quality Standards for the Cape Fear River Basin was amended effective November 1, 2007 with the reclassifications listed below, and the North Carolina Division of Water Quality maintains a Geographic Information Systems data layer of these UWLs.

(1) Military Ocean Terminal Sunny Point Pools, all on the eastern shore of the Cape Fear River [Index No. 18-(71)] were reclassified to Class WL UWL as defined in 15A NCAC 02B .0101.

(2) Salters Lake Bay near Salters Lake [Index No. 18-44-4] was reclassified to Class WL UWL as defined in 15A NCAC 02B .0101.

(3) Jones Lake Bay near Jones Lake [Index No. 18-46-7-1] was reclassified to Class WL UWL as defined in 15A NCAC 02B .0101.

(4) Weymouth Woods Sandhill Seep near Mill Creek [18-23-11-(1)] was reclassified to Class WL UWL as defined in 15A NCAC 02B .0101.

(5) Fly Trap Savanna near Cape Fear River [Index No. 18-(71)] was reclassified to Class WL UWL as defined in 15A NCAC 02B .0101.

(6) Lily Pond near Cape Fear River [Index No. 18-(71)] was reclassified to Class WL UWL as defined in 15A NCAC 02B .0101.

(7) Grassy Pond near Cape Fear River [Index No. 18-(71)] was reclassified to Class WL UWL as defined in 15A NCAC 02B .0101.

(8) The Neck Savanna near Sandy Run Swamp [Index No. 18-74-33-2] was reclassified to Class WL UWL as defined in 15A NCAC 02B .0101.

(9) Bower's Bog near Mill Creek [Index No. 18-23-11-(1)] was reclassified to Class WL UWL as defined in 15A NCAC 02B .0101.

(10) Bushy Lake near Turnbull Creek [Index No. 18-46] was reclassified to Class WL UWL as defined in 15A NCAC 02B .0101.

(p) The Schedule of Classifications and Water Quality Standards for the Cape Fear River Basin was amended effective May 1, 2009 as follows:

(1) a portion of Cape Fear River [Index No. 18-(26)] (including tributaries) from Smithfield Packing Company's intake, located approximately 2 miles upstream of County Road

1316, to a point approximately 0.5 miles upstream of Smithfield Packing Company's intake from Class C to Class WS-IV CA.

(2) a portion of Cape Fear River [Index No.18-(26)] (including tributaries) from a point approximately 0.5 miles upstream of Smithfield Packing Company's intake to a point approximately 1 mile upstream of Grays Creek from Class C to Class WS-IV.

History Note: *Authority G.S. 143-214.1; 143-215.1; 143-215.3(a)(1);*
Eff. February 1, 1976;
Amended Eff. May 1, 2009; November 1, 2007; November 1, 2004; August 1, 2002; April 1, 1999; August 1, 1998; September 1, 1994; June 1, 1994; August 3, 1992; August 1, 1990.

North Carolina
Department of Environment and Natural Resources

Michael F. Easley, Governor
William G. Ross Jr., Secretary

NCDENR

July 18, 2008

TO: Major Newspapers of NC

FROM: Ms. Elizabeth Kountis
Environmental Senior Specialist
N.C. Department of Environment and Natural Resources
Division of Water Quality

SUBJECT: Publication of Public Hearing Announcement for Proposed Reclassification of Cape Fear River

Attached is an announcement for a Public Hearing for the Proposed Reclassification of the Cape Fear River. The legal requirements for notice of this hearing as required by G.S. 150B-21.2 have been met by publishing this notice in the *NC Register*. Publishing this notice in newspapers is not a statutory requirement and has therefore been recently cut from the Department's budget as non-essential spending. However, we do recognize that newspapers are one of the most effective methods to convey information to the public, and many newspapers contain a public announcement (or similar) section that does not charge a fee to service its readers with public hearing announcements. Therefore, we are presenting the attached announcement to you for your information to publish at your discretion.

Should you decide to publish this information, it would be greatly appreciated if you would notify us. I can be contacted at any of the following:

By Email: Elizabeth.Kountis@ncmail.net
By Fax #: (919) 807-6497
By postal mail:
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If you should have any questions, please do not hesitate to contact me. Thank you sincerely for your consideration.

Enclosure